

W. COOK'S
POULTRY BREEDER
AND FEEDER,
OR, HOW TO MAKE POULTRY PAY.

FOURTEENTH EDITION.

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**THE PRACTICAL POULTRY BREEDER
AND FEEDER.**



The late WILLIAM COOK.

Originator of the Orpington fowls, and author of previous editions of "The Practical Poultry Breeder and Feeder," and many other works dealing with poultry-keeping. 1849-1904.

Fourteenth Edition.

PRACTICAL
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AND
FEEDER:
OR
HOW TO MAKE POULTRY PAY.

Previous Editions by the late William Cook.

Re-written and revised to date.

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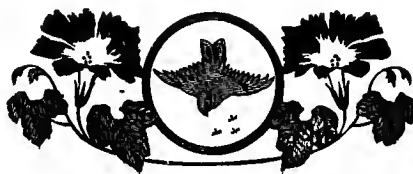
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PREFACE.

THE publication of the early editions of this book dates from the time when poultry-keeping was not understood in England, and it was the privilege of its author to become the pioneer of profitable management of fowls in this country and her Colonies. Taking a retrospective view of the conditions under which the first edition was published, we have every cause for thankfulness that the object of the late William Cook was accomplished; and the information he had acquired by dint of the close study of fowls for many years being freely disseminated throughout the country, has resulted in the enlightenment of many thousands of readers, who have, in their turn, become poultry-keepers.

The accomplishment of his object, which was to prove that with proper management fowls could be made to pay, has resulted in the present-day prosperity of poultry-keepers of all grades and classes, and while we rejoice that an intelligent interest is taken by many, we see that there is yet much to be accomplished before the industry has even become developed, for on all sides the demand exceeds the supply—and in districts where, as the result of improved application to the study of the subject has been given, resulting in an increased supply—the prices are not only maintained but steadily on the increase from year to year, and we feel that it has been our privilege to further the development of this

great industry, and shall continue to make it our life's work to give to those who are interested in poultry—whether as amateurs or professionals—the results of our close and consistent study of the subject in our various publications. The imparting of practical information on any given subject is invariably a delight to those who are privileged to have been able to devote their life to the attainment of knowledge in matters in which they are thoroughly interested, and, as in our case our inclinations and our studies have been parallel, it provides us with untold happiness to receive letters from readers in every part of the world expressing their appreciation of the work of our pen from year to year. In sending out this new edition of this book we desire the indulgence of those who have not read previous issues, and, consequently, have not followed the various stages through which poultry-keeping has been—reaching down to the present time, when there remains so much yet to be done—while we briefly recall the history of the care of the domestic fowl as known to English poultry-keepers.

When we take into consideration the numerous publications which are devoted to the interests of poultry-keepers at the present day, it seems almost incomprehensible that the interest thus sustained has seen its birth within the last twenty-five years, insomuch that at that period there was not a single paper published which dealt exclusively with fowls, and the only information available then was to be obtained from a couple of columns weekly in "The Live Stock Journal." It was the writer's privilege to contribute articles to that paper twenty-four years ago, and during the intervening years to carefully follow the development of breeds

and interests which have called for the utilisation of much printer's ink to keep pace with the onward march of progress.

The first paper which was published for the guidance of the infinitesimal percentage of the population who took even a slight interest in fowls appeared twenty-four years ago, and it was in that paper that the first newspaper work of the late William Cook—who wrote the leading articles for it for a period of thirteen years—was published. Seeing the need after three years, on account of the great awakening of land-owners to the possibilities of poultry-keeping for farmers and cottagers as an industry and for themselves as an interesting hobby, "The Poultry Journal" was published, and in the twenty-one years during which it has made its monthly appearance, many thousands have succumbed to the poultry mania and become enthusiastic readers of the advice there circulated, and it has been admitted by all that the results obtained have been largely composed of pleasure and profit. That the number of poultry-keepers is increasing rapidly we have daily proof, and when we see the various articles dealing with the subject of fowl-keeping in social and art journals, in addition to those papers the object of whose proprietors is to reach the agricultural community, we realise the importance of the interests now allied to the domestic fowl. This industry, which is manifestly important, gives pleasurable occupation to those in all walks of life, and we are thankful that our publications have stood the test of the progress of time; and, in spite of the appearance of many similar works, the demand for them has proceeded apace, so that the necessity for this new edition has arisen long before we anticipated its publication.

We trust that it will receive the same kindly reception as accorded to the preceding issues, and that this work, which is the result of the close study of every phase of the subject, will fulfil its mission as well as the previous editions have done. When we state, in the most emphatic manner possible, that the poultry-keeping industry has not yet been developed, but is in its infancy as compared with what it should be, and with what it is bound to become, we are convinced that future generations will be able to confirm our belief in the possibilities of the production of fowls.

There are many who are seeking a profitable recreation, and with fowls for utilitarian purposes they may find this; and there are also others who, having learnt the pleasurable fascination of the cackle of the hens or the distinctive crow of a favourite male bird, yearn for the further development of their hobby, and for these the exhibition field lies open and will be found to provide unlimited scope for the development of their ideas, combined with a great deal of profit following their successful attainment.

During our life's work we have seen interesting and encouraging signs of progress, and we anxiously wait for the time when poultry-keeping will have assumed its proper position amongst the occupations open to both sexes, which must result in encouragement from those who have the interests of agricultural development in hand.

Much has been accomplished; but until we see co-operation amongst producers, and facilities afforded by the Board of Agriculture for the encouragement and development of the production of the millions of new-laid eggs and thousands of specially-fattened first-class fowls for which there is a

yearly demand in England, we must consider that in this direction English poultry-keepers are handicapped when their facilities are compared with those possessed by Continental producers, who gladly avail themselves of the opportunities offered by enterprising agents who get their livelihood by systematically arranging the collection, grading and shipment of the produce of the districts in which they reside. English people who are not poultry-keepers, but to whom the publication of the Government Blue Books affords much food for thought, have often asked whether it was not possible for the whole of the poultry and eggs required for home consumption to be produced in our own country. As we have repeatedly pointed out, there are many matters requiring careful consideration in connection with this subject before any adequate solution can be arrived at; and when we remember that the demand for poultry produce of the best quality is steadily increasing year by year, and that there is also a good sale for eggs and birds in the second-rate and third-rate grades, at prices which would not be remunerative to home producers, we believe it would be a calamity to those in less fortunate circumstances to be deprived of the eggs and fowls now imported in such surprisingly large quantities from the Continent and our own Colonies. It must be remembered that, owing to being compelled to live in thickly-populated districts, the workers are unable to keep fowls themselves, even should they wish to do so, and yet they find eggs a very valuable article of diet, as well as an occasional fowl, and until the enormous demand for the best is satisfied, there is no need whatever for anxiety as to the advisability of considering the production from the point of view of ousting the

imports, for in this particular branch of produce it will be found that our own people market the best—and the new-laid eggs, and specially-fattened table poultry produced in England, hold the premier position in the markets and in the retail trade. We trust that the present edition of this work will do much to enlighten those who have not yet kept fowls, as well as help the many who, having taken up the pleasurable occupation of caring for poultry, still seek for information as to the most profitable way in which to manage their birds so as to end in the greatest measure of success possible.

We have considered it advisable to devote more space to the comparison of the different breeds than has hitherto been occupied by this subject, on account of the importance of the question to those who are without experience, and do not possess the opportunity for testing the popular varieties before investing in their stock; and we have also added to the chapters on those breeds which are largely kept the standards, to enable those who already have a few birds to see whether their fowls are typical, and if so, to what degree. For these standards we are indebted to "The Poultry Club Standards," compiled by the late Mr. Lewis Wright, and published by Messrs. Cassell and Co. To further help amateurs, we have added a chapter containing hints for each month of the year, so that those who are in doubt as to the work requiring attention can, by turning to this, obtain just the advice required without perusing other advice than that required at the time.

WILLIAM COOK AND SONS.

Orpington House,
St. Mary Cray, Kent,



WILLIAM COOK.

1849—1904.

ON June 25th, 1904, there passed from our midst the well-loved form of one who for many years was known as the pioneer of profitable utility poultry-keeping in England, and whose fame as originator of the Orpington fowls and ducks had reached the remote parts of the world, and amongst a large circle all over the United Kingdom as a staunch, helpful friend, both in times of sadness as in those of happiness; while the loss sustained by his family and his immediate home circle, including his staff and many employees, was irreparable, for, while to all he was a considerate loving friend, he was the kindest and most indulgent of parents.

It is the sad pleasure of his daughter to pen a few words as to the career of the dear one now removed from the home and the sphere of work which he loved, and while doing so she craves the indulgence of those readers who did not know him personally for the occupation of this space, feeling sure that those who—first making his acquaintance through the reading of the earlier editions of this little work, and then getting to know him by attending some of the lectures which he delivered in every county in England at some period or other during his years of public

work, or by meeting him at the leading shows where, year by year, he was a well-known figure, and undoubtedly the most sought after by young fanciers who wanted his opinion on some particular bird there, or needed advice on starting—became friends in the best sense of the term, would consider the publication of the first edition after his death incomplete without a few words of remembrance of the pleasant tie which was severed on that Midsummer's Day in the hey-day of his life, which, in the ordinary course, considering his wonderful physique, would have been expected to have run the span allotted to man. His loss was regarded by thousands as a personal one, and the influence he had spread around him wherever he went left behind the feeling that, in the passing of William Cook, friends lost the genial companionship of a man whose equal had been rarely met, and they honour the memory of one who, in a particularly genial way, without reserve gave to the world the benefit of his researches, and who to the end maintained before all the position he had, by dint of his own personality and upright conduct, of an impartial friend, a trustworthy business man, a considerate employer, and even in later days, when he had many enterprising rivals to contend against, a fair opponent. These estimates were due to the exercise of his seemingly untiring energy, and to his willingness to spend it for the good of others, which resulted—and not even in his own most sanguine expectations had he ever anticipated this outcome—in the establishment and building up of a business which has acquired world-wide fame, and which it has since devolved upon four members of his family to uphold the honour of.

Born at St. Neots in the year 1849, the childhood of

William Cook was spent amongst animals of all kinds, and quite early did he show his love for fowls by specially caring for those on the farm next to his home—hatching and rearing the chickens for the farmer's wife purely for the pleasure it gave him. At the age of twenty, following on his marriage—which he invariably referred to as the happiest step he had ever taken—he wrote the first edition of "The Practical Poultry Breeder and Feeder," which was published in 1882, the influence of which is felt to the present day.

In the first place and primarily it showed the way fowls could be kept profitably, and readers were soon acting on its advice. When the book was first published, the printer advised the publication of only a small edition, and then spending a lot of money in advertising, if the book was to go. This was not done, but by careful introduction it was made known, the author feeling that if the book was any good it would go.

Friends advised an outlay of £150 in advertisements, but in spite of the non-acceptance of this advice large numbers of the book were sold. Not £5 was spent in advertisements, and although at the present time it might seem very unwise policy, nevertheless, the book sold most rapidly.

As many as 850 copies were sold in one day, and for weeks there rarely passed a day on which orders were not received for 200 copies, thanks to the gratifying notices the Press favoured the little work, which was spoken of as the most practical that had ever been published. The following are selected from amongst the many notices which appeared at that time:—

"How to make Poultry Pay" (W. Cook).—This is a useful

handbook for persons with limited space, who wish to keep a few profitable fowls, and have no practical experience to guide them, either in selection or management. The old-fashioned notion that eggs must cost 6d. each to the persons who only kept half-a-dozen fowls has long since been exploded; and the author of this handbook enforces the well-proved fact, that no household is too small to be incapable of furnishing scraps and refuse upon which a few fowls can be mainly kept, thus converting worthless matter into profitable delicacies. Of its practical value we, as old poultry-farmers, can and do bear willing testimony.—“Bromley Telegraph.”

“Practical Poultry Breeder and Feeder, or How to make Poultry Pay” (by Wm. Cook).—The idea of likening poultry unto machines for converting waste and worthless matter into very good and profitable delicacies is a happy one, and the author explains it very thoroughly. With little labour and attention, fowls may be kept so as to yield a good return; but there are conditions which must be observed, and these are simply and plainly laid down by the author, who is the most careful instructor we have met with for a very long time.—“Daily Chronicle,” October 10th, 1882.

“Practical Poultry Breeder and Feeder, or How to make Poultry Pay” (by Wm. Cook).—This book explains in very simple language all that one needs to know about fowls, and we are perfectly sure none who follow the plain instructions given will fail to keep poultry at a profit. The book has also a very complete index.—“Glasgow News,” Nov. 18th, 1882.

“Practical Poultry Breeder and Feeder.”—Mr. Cook says

that poultry may be likened to machines for converting waste and worthless things into good and profitable delicacies. Much good poultry food is no doubt thrown into the hog-tub, or otherwise wasted. How to turn many things to account may be found in Mr. Cook's valuable manual, which is full of practical knowledge of all kinds of fowls and their management. Poultry breeding and keeping not only may be, but it is profitable when carried out on the system recommended by Mr. Cook.—"Land and Water," Nov. 8th, 1882.

"How to make Poultry Pay."—This is the title of a practical work on poultry breeding and feeding, by Mr. William Cook. It is specially adapted for cottagers, or those having limited accommodation for keeping fowls, and the author has been successful in his endeavour to impart plain and practical information, which will be of service to the amateur poultry-breeder, and enable him to make it a profitable pursuit. The most suitable class of houses, the best system of feeding, breeding, and rearing, and the diseases of poultry, are all dealt with in detail, and advice is given, by following which the uninitiated in these matters may select the best pure breeds for crossing. The best poultry for egg producing and table purposes are indicated, the object of the author being to bring out the useful and profitable qualities of fowls, rather than the points requisite for carrying off prizes at exhibitions. When it is considered that about 750 millions of eggs are annually imported into this country, chiefly from France, poultry-breeding becomes a question of much importance, to which greater attention should be paid, and those engaged in it will find themselves greatly assisted by a perusal of this little work.—"The North British Agriculturist," January 24th, 1883.

"Mr. Cook, in his useful little book, 'How to make Poultry Pay,' remarks that the number of eggs annually imported by this country is about 750 millions, worth (say) £2,400,000. As is generally known, the majority of these eggs come over from France, where they are produced by cottagers and farmers, nearly all of whom keep fowls, and make them pay well. Mr. Cook thinks that if our cottagers and farmers would only devote themselves to a little practical study of fowls and their rearing, at least half this sum of money could be kept in this country. A friend, who followed Mr. Cook's sensible advice, was able to increase his store of eggs from 400 to nearly 1,000, without, at the same time, adding to the number of his fowls. It is without any question the best manual on the subject yet published."—"Society," Feb. 3rd, 1882.

"To the Editor the 'Morning Post.'—I have read with interest the several letters on poultry that have appeared in your columns lately; and being quite convinced that poultry can be made to pay, I send you my results for the last two years. In 1881, from 13 hens I got 2,138 eggs, and for food paid £3 15s. 2d. In 1882, from 18 hens, 3,036 eggs, and paid £5 5s. for food. As I am anxious that others should make their poultry pay, I may add that these good results have been obtained by strictly following a little book published by Mr. W. Cook, of Orpington. I enclose my card.—Yours truly, R. B. C." (Sir Robert Boucher Clarke.)

"How to make Poultry Pay" (by Wm. Cook) is one of the ablest works on such a much more important subject than at first glance might appear evident that has yet appeared. Mr. Cook points out so many facts concerning the numerous errors universally made either through ignorance or prejudice,

about poultry, its rearing and breeding, that the little manual deserves to be widely dispersed. The number of eggs annually imported into England is about 750,000,000, worth, say, £2,400,000. As is generally known, the majority of these eggs come over from France, where they are produced by cottagers and small farmers, nearly all of whom keep fowls and make them pay well. The money these people receive from England might just as well, as Mr. Cook truly observes, go to our cottagers and workmen, and if these really understood how to keep fowls there is no reason why it should not. It is a great mistake to think that our climate is prejudicial to poultry. On the contrary, English eggs are, as a rule, much larger and better than French, and our poultry more tender. The fact of the matter is, that our workpeople do not know how to treat fowls economically, and are not aware of the simple remedies that can be supplied in case of sickness, at a small cost. Poultry, like bees, require attention, above all, judicious treatment; and yet their requirements are not great or expensive. It has often been said that the English working classes might be much better off than they are if they only knew how to take advantage of things, as do the French, who in reality are exceedingly poor, but at the same time very frugal, and admirable in their perfect knowledge of domestic economy, often knowing how to live comfortably on what their English fellow-labourers throw away. Mr. Cook's book, however, has a wider scope than that of teaching poor people how to keep poultry. It addresses itself equally to the rich, and so practical are the hints it contains that one gentleman by following them managed to increase his store of eggs in one year from 1,800 to 2,300, and yet

he did not increase the number of his fowls. He deals with his subject in a somewhat different spirit to that of most writers. He states his object in writing the book to be to endeavour to give in as few words as possible such plain and practical information as will enable anyone, who has little or no idea of poultry, and only the smallest accommodation, to keep fowls and make them pay well. He disclaims any intention of dealing with fancy poultry, and states, as is undoubtedly the case, that birds reared only for the show pen seldom lay any large number of eggs. His idea in writing his book "is to describe the best fowls to keep for egg-producing and table purposes.' . . . We can safely advise a careful perusal of the entire work to such of our readers as take up poultry-keeping with a view to the return in eggs or table fowls, and those who already do something in this will also gain much useful information from the author's narrative of his experience.—"Journal of Horticulture," Oct. 19th, 1882.

In the year following he became leader-writer to the paper "Poultry," which then first saw the light, and for thirteen years held this position, relinquishing it only when he found his business in many countries prevented his giving his undivided attention to that work. In the year 1886, the Black Orpington was introduced to the public, and was the original variety of this, the most popular breed of the day.

When first exhibited at the Dairy Show, in October, 1886, they created quite a furore amongst the fanciers, who saw in them quite a different class of bird to any then popular. The excitement thus created led to a good deal of correspondence in the different poultry papers: some even predicted failure,

on account of the popularity of several breeds which were then gaining headway, thus proving that they had not formed an accurate estimate of the possibilities of poultry-keeping, and the development and certain progress of breeds which had qualities of sterling merit to recommend them.

At the time of their introduction the originator claimed for them the possession of qualities not to be found in any one breed then before the public. Those who took the breed up on his recommendation have proved the truth of his words many times over, and at the present day, after the lapse of nearly twenty years, and now that he is no longer here to rejoice in the progress of the birds which were the pride and joy of his life, they stand pre-eminent as:—(1) Layers of brown-shelled eggs; (2) Table birds of excellent quality; (3) Handsome appearance, combined with hardiness and unlimited stamina; (4) Capital sitters and mothers when required.

Taking their qualities in the above order, they are certainly not only good autumn and winter layers, but also summer egg producers for those who understand how to check their broody propensities when not required for sitting purposes, and their good-sized brown-shelled eggs give pleasure to all. As table birds they are not equalled, as their white flesh is of splendid texture and quality, and there is no trouble experienced in getting the birds to “fleshen” as with many other breeds. Their handsome appearance is admired by all lovers of the beautiful in form and symmetry, combining also a lovely sheen.

Their popularity at the present time is greater than ever, and they have had the distinction of realising regularly the

highest prices ever made by any breed of fowls, and all Orpington fanciers have every reason to be proud of this, as their special fancy has been the most talked of breed for some time past. We are convinced that the Black Orpington will hold its own against all comers, and as long as fowls are kept they will be bred by lovers of the beautiful and useful. It would indeed be impossible to get a better all-round fowl, unless one could be introduced possessing all the qualities of the Orpington, but non-sitters.

William Cook's object in introducing the first variety of the breed was to give to the poultry world the unique combination in one breed of a good layer of brown-shelled eggs, a first-class table fowl, combined with hardiness and a handsome appearance; and confirmation of the achievement of his object is not required from our pen—for the fowls speak for themselves, and wherever they go they find admirers and firm friends, by reason of their great usefulness.

At the present day the Orpingtons form not only the most popular utility breed in England and her Colonies, but are the leading birds for exhibition, as the well-filled classes for every variety of this splendid breed prove in both the large and small shows, the Orpington classes being invariably the most profitable of any in the show. The Orpington fowls were the result of many years careful breeding on the part of the originator, who was the pioneer of poultry-keeping for profit in England, and who, in his efforts to supply farmers and other poultry-keepers with a fowl which would prove profitable for all purposes and under all conditions, made a name of world-wide popularity.

That he has fulfilled his mission in life—and this

well—is gladly admitted by thousands, and those who had not the pleasure of his personal acquaintance, but who have kept some of the fowls of his introduction, cannot speak too highly of his handiwork. That the Orpingtons will continue to make progress is certain, for the conclusion of every year sees many added to the list of Orpingtonians: the fact that there is money in them acts as an incentive to others to join the vast number who are making a handsome profit out of this splendid breed of fowls. No matter whether the fowls are required for utility purposes, viz., for the production of eggs and table birds; or whether the ambition is to possess the highest scoring birds in the show-pen—complete satisfaction will be found in the Orpington in its different varieties. As table birds they are not equalled, and so keen is the competition in the show-pen, that those who devote their time and attention to the breeding of Orpingtons find that they can realise the highest prices obtainable for any breed with these fowls.

Birds of this breed are distinguished on account of their having regularly realised very much higher prices than those of any other breed or variety, and this is always a proof of the excellence of any live stock. The point which is so greatly in their favour is that when breeding for the show-pen, those birds which fall short in points can always be turned to good account, as the cockerels which are not good enough for breeding purposes fetch paying prices for breeding for the table, and the pullets, when kept for laying purposes, yield a splendid profit.

It is the utilisation of all birds bred which makes the Orpingtons so very profitable. Everyone who has taken up

pedigree Orpingtons has found a ready sale of all spare stock at more than remunerative prices, and we have every confidence in stating that there will be much more money made in Orpingtons in the coming years than in the past. Every successful exhibitor of the breed in England has assured us that it has been an impossibility to fill the orders received for stock and eggs during the past season, and the letters from breeders of Orpingtons abroad inform us that the demand they have had has more than satisfied them, and when we take into consideration the numbers of popular varieties of other breeds, it is a fact worth recording that the fanciers are satisfied, and proves unmistakably that they are for other countries as they have been for many years called in England: "the money-making Orpingtons."

In the same year as the Black Orpingtons were introduced, the monthly "Poultry Journal" first saw the light, and this has been read by poultry-keepers in all parts of the globe, who have been enabled to keep in touch with the rapid progress made in the different varieties which have appeared from time to time, as well as to gather information for their guidance in the management of their own birds.

The Buff Orpingtons were introduced in 1890, followed by the Whites, in 1892, while the Jubilee Orpingtons celebrated the Diamond Jubilee year of our late Queen, appearing in October, 1897, and the Spangled variety, which is the last, was brought on in 1900. During the intervening years new editions of "The Practical Poultry-Breeder and Feeder" were published, together with three other books dealing with the subject of the practical management of ducks, geese, turkeys, and pheasants, as well as one treating on the horse, the

hobby of its writer being for many years the breeding and raising of hunters and harness horses.

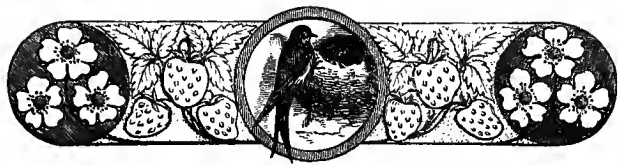
Parallel with the publication of these, many manufactures in the form of foods and powders went out, all users testifying to the practical value of these, and their ever-increasing sales, down to the time of going to press with this edition, prove the belief of the maker that he was supplying a long-felt need, by offering for sale the results of his various discoveries in the blending of drugs and foods, to have been a well-founded one. During the years following the introduction of the Buff Orpingtons, oft-repeated trips were made by William Cook to the Australasian Colonies, India, South, East, and West Africa—while poultry-keeping on the Continent, in its various phases, received the careful study given to everything he took up—resulting in the dissemination of more information on poultry than has ever emanated from the pen of one man. The most crushing blow of his life was experienced when, during a visit to his farms in the South African Colonies—to introduce his youngest son there to his large clientèle—the dear wife to whom he dedicated his work on the Orpingtons in words expressive of his appreciation of her devotion, was taken away through an unfortunate explosion of gas. And after his return to England he experienced much sadness through the unfair treatment of one who should have been a help to him in his time of loneliness, and from whom he separated before his death—which occurred with tragical suddenness on the first anniversary of his wife's death—leaving behind him many tokens of his regard for his fellow-men, and after a life of happy energy—spent in the interests of all—the words of the simple memorial card commemorat-

ing his death are expressive of much we felt about that last sad year of his life:—

“The Lord God hath given thee rest.”

E. J. CLARKE.





GENERAL REMARKS.

P OULTRY-KEEPING is making great headway year by year, and much of the satisfied contentment to follow on the lines adopted by their forefathers is fast disappearing from the demeanour of farmers and their employees, and in its place is found intelligent comprehension of the needs and requirements of fowls, resulting in better returns and a general feeling of satisfaction after the accounts for the year have been made up.

When the former condition of things is realised and compared with the present-day knowledge of even our young people, it can readily be seen that there is a complete change over the whole aspect, and much of this has been due to the dissemination of practical information contained in the former editions of this work, and in the Lectures delivered in different counties for so many years by its author. The question as to whether poultry can really be made to pay used to be a frequently-asked one, and it was not always free from a cynical sarcasm, which had the effect of damping the energies of many who had not the entire courage of their convictions. As a result of the experiments of thousands who went in for a few fowls with the object of supplying their own tables

with genuinely new-laid eggs, the need for asking the question has passed, and while on many hands it is admitted that poultry-*farming* has not always proved the success it should have been, even the cynic has had abundant proof that poultry-*keeping* will, and does pay, provided that a reasonable amount of commonsense is exercised in the management of the birds. It is essential, when taking into consideration the different uses to which fowls can be profitably put, to bear in mind that there are many—if not more—possibilities in connection with this paying hobby than in any other. Years ago the author conceived the idea that fowls could be made to pay because they could be aptly described as machines which would convert useless matter into acceptable delicacies for the table, and many of the prominent poultry-fanciers of to-day have become so through finding that their birds provided for them an ever-increasing, and thoroughly absorbing interest, combining with this the welcome profit attached to the results of their labour, and who can date their first inclinations towards fowls from the realisation of the possibility of a few birds kept for egg production becoming waste-converting means to a profitable end. Few outside the radius of the poultry world can have any conception as to the extent this industry has reached. Were it possible to have a census of poultry-keepers and farmers compiled, the result would astonish everyone, for there are large numbers who gain their livelihood entirely by keeping fowls, and the different branches of work in connection with it provide sustenance for many.

There is an ever-increasing number who keep a few fowls to consume the scraps from their household, and provide, in

return eggs and young birds for their own table. Amongst these are found many of those whose means are unlimited, and who can afford to indulge their tastes in every direction, and yet who possess the knowledge that their fowls give them a better return for money invested than any other hobby in which they engage. Amongst these there are many who take the keenest delight in their birds, and they undoubtedly prove to be some of the most profitable of clients to the poultry breeder, who makes it his sole business to produce typical birds of the different breeds which he specialises. This class of poultry-keeper changes his stock every two years or so, trying different varieties as his fancy dictates, and is in this direction quite apart from those who keep a few fowls year after year merely for the profit combined with the pleasure they have proved to have derived from them. Neither of these classes, as a rule, sell eggs for sitting or raise birds for stock, but just consume the majority of the eggs produced, setting just a few in order that a small number of chickens may be raised, the pullet progeny being reserved to replenish the layers, and the cockerels killed for the table. It not infrequently happens that these small poultry-keepers reside in districts where the dwellings are close together, and, on account of the maturational energy of the lusty male bird—which kept under these conditions seems, by a strange irony, to be even more noisy than when quartered in the country—it is advisable, in order that peaceful conditions may exist between neighbours, to dispense with the keeping of any birds but the peaceful and active hen; and when this is the condition of things it becomes necessary, as the time comes round to replenish the stock, to

do so by means of the purchase of eggs for sitting—which is certainly the least expensive method of securing fresh birds—or to buy in some pullets in the autumn following their hatch in the spring. While, originally, fowls were rightly considered to be the poor man's pets, on account of their being more easily obtained than animals, which cost more to purchase and were also more expensive to maintain, at the present time they are largely kept by people of wealth. The prejudice which existed against the birds on the part of those interested in the cultivation of the gardens has disappeared, for it has been found practicable to keep fowls at large for six months in the year with excellent results in the garden, and park land, having benefited largely by small flocks of fowls running over it, is now utilised by landowners in every county for this purpose, and it has been our pleasure to hear many, who now keep flocks of from one to five hundred birds under these conditions, say that they would not like to be without their feathered pets, which, ranging far and wide, get the greater part of their own living and provide animation to the otherwise quiet landscape without in any way prejudicing the susceptibilities of those who revel in the calm of the country. Fowls have, on the other hand, provided an interest in life to many of the world's workers whose lives are cast in a narrow groove, bordered by masses of bricks and mortar, and habits of thrift have been encouraged in many a working-man's life by the incentive provided to save pence and shillings towards the realisation of the ambition to possess a few pure-bred fowls, which idea has originated by watching the birds in a fellow-workman's or a neighbour's yard; and, after the accomplishment of the

object, the love for the birds resulting from the close study of their habits and requirements has become so deeply rooted that from the ranks of artisans and agricultural labourers have sprung many poultry-fanciers, who have evolved from the original keeper of a modest half-dozen to the successful breeder and exhibitor of to-day. Then there is the City man, who, in order to provide his family with eggs the quality of which he can rely on, had taken up poultry-keeping in his villa garden, and from this modest beginning exhibitors have been raised up amongst the children, who, occupying themselves during spare hours from school with their father's fowls, have acquired such a love for the work that they have not found it possible to settle down to any other occupation. Then, again, there is the farmer, whose opportunities for the most profitable class of poultry-culture remain in the majority of cases quite undeveloped, for whereas in some districts there are a few who keep fowls on a scale consistent with the facilities provided by their land, there are thousands who are too lethargic to realise the possibilities of combining poultry-farming with the cultivation of their land. It saddens us when we see farms which are in every way suited to the raising of at least a thousand chickens yearly, and the carrying through of a stock of five hundred hens for laying, and which additional source of income could be easily managed by the exercise of a little forethought and energy, remaining unoccupied; and until the farmers of our country realise that their lack of enterprise and neglect to utilise their opportunities in this direction is costing them personal loss and becoming a great national question, it will not be possible to cope with the demand which is at their doors for profitable

produce. It should be remembered that fowls on soil of all kinds greatly improve its value for crops, and on some soils the benefit derived from fowls is not attained by any other means.

The special advantages possessed by farmers consist of being able to add to their money-producing opportunities without any increase in the matter of rent; and by dint of careful management this can be accomplished without the expenditure of very much capital, as by the exercise of a little ingenuity quite a number of fowls can be accommodated in the buildings available on farms of any size, and the possibilities open to the purchaser of two or three carefully-selected pens of pure-bred fowls cannot be realised save by those who have seen the results of other similar investments. The stock birds can be housed round the farmyard, and allowed to have their liberty, and, by setting all eggs produced during the months from December to May inclusive for the first year, a sufficient number of chickens can be raised by hens—for which just ordinary wooden coops can be made by any handy farm hand under the direction of the farmer or his wife or daughter—to enable the farmer, by the sale of the cockerels thus obtained, to purchase houses to place out in the fields for the accommodation of the pullets which will prove to be a steady source of income from the autumn onwards, and for two years following, when they will still be saleable as “boilers” in the market or to private customers, numbers of whom await the thoughtful farmer—generally in his own district.

The results obtained from the careful management of three pens of suitable stock birds should in two years yield

an additional clear income to every farmer commencing and maintaining his fowls on the lines laid down in this book of over £100 per year, counting the cost of the labour involved and the food consumed; and the possibilities of extension beyond this limit appeal largely to us when we realise that the great awakening amongst poultry-keepers on a small scale to the profit to be derived by going in for a few birds from reputed strains, which are the result of careful and consistent mating on the part of their founders, produces a large demand for eggs for sitting from birds purchased from those breeders, opening up a channel for the disposal of a large percentage of the eggs produced during the spring—when the prices for the table are lower than during the autumn and winter—for sitting, at much better prices than could be realised were these sold for consumption, and yet without any additional expense beyond the occasional insertion of a small advertisement in two of the papers circulating in the county in which the farmer resides. There are several causes to which may be traced this demand for eggs for sitting, amongst which should be considered the interest roused by a visit to the steadily-increasing number of small poultry shows, in addition to the larger shows which are the events for which the professional exhibitor works during the whole year. Pessimists have told us that there could be no possible good result from the placing together for public view of fowls which were only intended for the food of man, and that the cultivation of fine feathers could only end in the alienation of what useful qualities the birds should possess, but, like all cynical people, they are satisfied with an entirely one-sided view of the matter, and even if they are

aware in their inner-consciousness that there *is* another side, and, it may be, one presenting an entirely different aspect, they do not wish to be turned from a feeling of general satisfaction which they appear to derive from the cultivation of the vice of fault-finding. Taking a comprehensive view of the whole subject, and weighing well the result of the poultry shows of the last twenty years, we can but realise what a very large percentage of the poultry-keeping population have so become through, in the first place, admiring the birds they have seen exhibited at their annual agricultural show, or at the meeting of the members of, it may have been, a very small society in their town, which, having for its object the interests of poultry-keepers at heart, had promoted first of all a few members' shows which were the first stage towards the announcement that an open show was to be held, this being an exhibition at which poultry-breeders other than members of the society would possess the right of exhibiting.

We do not know of any other class of live stock which inspires people with the desire of possession to the extent that well-bred fowls do. It may be that their comparatively small size suggests to the would-be owner—who frequently is not a man of wealth—the possibility of ultimate possession, and we are convinced that there are many who had not hitherto thought of taking up “chickens,” who have succumbed to the charms of some of the lovely pullets they have seen in the shows to which they have gone out of curiosity. There is nothing more pleasing to the impressionable than the appearance of a fully-matured pullet in the fresh flush of her beauty, due to the production of her

first egg, and the pleased cackle accompanying the accomplishment has first secured the attention of the hitherto indifferent observer, ultimately resulting in the acquisition of some birds for the garden at home. Considering the question of poultry shows, apart from the interest created amongst those who visit them, it is not possible to come to any other conclusion but that of great good to everyone who has promoted and encouraged them. That the utilitarian qualities of the majority of breeds remain intact is proved by the fact that the most profitable variety, from the utility poultry-keepers' point of view, are also the most largely exhibited, and by far the most popular, in the show-pen. We have in view, in advancing this as our belief particularly the White, Buff, and Jubilee Orpingtons, the White Leghorns and White Wyandottes, which are more largely kept for general profit than any others, and are undoubtedly the most numerous in all the representative shows, and, as confirmation of this, it is only necessary to compare the numbers of birds of these varieties brought together at both large and small shows with the results of the various laying competitions held in England, in which Buff Orpingtons, White Wyandottes, and White Leghorns invariably come out on top. Efforts have been made by those who have taken up some imported breed, or new variety of an established breed, to popularise them by exhibiting at different shows, and it is convincing evidence of the soundness of the judgment of the large community who comprise the poultry-keeping public that at the present time there is not a single breed which is really popular in the show-pen which does not possess sterling utilitarian qualities, and by this we see

the result of the influence of the good qualities required by the small poultry-keeper, who, by force of numbers, really controls the exhibition world, although there will be some who claim a position in that circle who would not like to admit this is so. It has been noticed during the past few years that several varieties have been exhibited and written up, but which have made no appreciable headway, and their promoters or importers, having become disheartened at their want of success, have had to devote their energies to other birds, which, on account of the demand for eggs and stock birds, possessed greater scope for profitable development. When a new breed or variety of an old one is exhibited in England at the present day, those who have had experience in poultry-breeding, but who, nevertheless, on account of properly-trained business instincts, are ever on the alert to find and appropriate additions to their stock, pause to consider whether it is possible to discover in the new breed distinctive qualities not possessed by those breeds which are enjoying a full measure of popularity, and if they do not find any satisfactory assurance that they will be right in anticipating a steady demand from the smaller poultry-keeper who is looking for something fresh, they decide to be satisfied with the breeds they already have until they come across some other from which they are convinced money can be made, and this not only from the exhibitor's point of view with regard to filling classes at shows and securing the coveted cards, accompanied by the still more valued prizes and cups and specials, but from the sales of that stock which fall considerably below the standard required for breeding purposes, as being removed one grade lower than those which

are good enough to give rise to the hope that they will prove themselves to be winners, beating the best produced by both specialists and amateurs.

It is to the sale of the "culls" which exhibitors look for the regular income which provides the ordinary fare of his *ménage*, the luxuries being forthcoming from the sales of the more typical stock—using this illustration in a figurative manner.

Thus it will be seen that the occupation of poultry-keeping presents many sides, and amongst these, interests may be found for those who are interested in outdoor work, and particularly for those who are not favoured by easy circumstances, for it is possible to keep a few fowls in a very small space, and almost every cottager has enough room to spare for this, while for larger animals his back garden would be useless, and why should it be that English cottagers have to be content with purchased eggs, which are oftentimes unsatisfactory, while they may, by the exercise of a little energy, produce fresh eggs and enjoy the luxury of a roast fowl sometimes for dinner? In times of sickness, eggs are invaluable, and as this frequently comes when eggs are at their highest price, the sick ones frequently cannot afford to purchase them at all, and have to go without, when had a few fowls been kept, they might have been forthcoming. The pleasure to be gained by people of all classes, combined oftentimes with benefit to their health and prospects, renders poultry-keeping an important factor in the joy of everyday life. We have personally known many instances where cottagers with a small piece of ground have paid their rent and derived a great deal of pleasure by keeping poultry, while many people

of leisure have greatly improved their health by getting out into the air to attend to their birds. Poultry-keeping is a pursuit, the love for which increases with experience. At first it seems impossible that this can be so, but success brings enthusiasm, and increases until the caring for the birds becomes an absorbing interest. Unlike many hobbies, poultry-keeping has an elevating effect upon those who are enthusiasts in sustaining its interests. For children the good results due to an early acquaintance with poultry-keeping are an important consideration. Young minds are active when they are healthy, and young hands are the willing servants of these minds, and when it is arranged that this activity can be governed and trained and turned from mischief into useful efforts to excel in amusements which are instructive, a great deal will be gained in directing aright those influences which will make or mar those lives. Kindness to animals, regularity in attending to the wants of the birds, a certain business enthusiasm, which in these days of keen competition men who succeed must have, in addition to much practical knowledge, gained in carpentering, building the houses and runs, painting, whitewashing, providing for future seasons, etc., etc., may be cited as useful details, all helping to train young people to regular and industrious habits at the time when they are most easily influenced, keeping them at home and preventing them from spending their spare time less well.

Then the question of economy, and even sanitary benefits may be cited as by no means unimportant considerations, and in these directions poultry-keeping may be said to have achieved much. There is invariably a varying quantity of waste food, scraps, kitchen refuse, etc., which, if not disposed

of somehow, finds it way into the ash bins—causing unpleasant smells, dangerous to those who come in contact with them, and all this can be profitably utilised by the judicious use of the “piece-bowl,” which is a regular institution with every provident keeper of fowls.

Comparisons are often made as to the relative chances of the town poultry-keepers, as compared with those resident in the country. It is suggested by some that country poultry-keepers have so many more advantages for successful poultry-keeping, as their birds can roam over commons and fields, and in this way pick up half their living. This may be so in some cases, but when we consider that in the country the pig-pail and other sources absorb a good deal of the scrap refuse, all of which goes to the fowls in towns, and the difference in price realised by the country producer for the eggs, and the comparatively limited sphere he has to obtain customers, and then the disadvantages of selling through a market, it will be seen that the town producer, even if it costs a little more for the keep of the birds, most certainly has an excellent opportunity for securing good remuneration for his produce.

Present-day poultry-keeping is a very different thing from that of years gone by. In those days of conservative old breeders, who would neither impart anything they possessed in the way of knowledge, or sell eggs or birds, and who guarded most jealously any approach to the spread of the industry, poultry-keeping for the poor man was practically out of the question. The best he could hope for was to get a few mongrels from some farmer or other enterprising person who would supply them, and these were the birds which led

so many disappointed aspirants for profit to add their confirmation to the oft-repeated opinion that—"poultry will not pay." The improved conditions of poultry-keepers now should give rise for thankfulness, and it would be well for all to appreciate their opportunities by making the most of them.

The production of fowls of good type, combined with excellent laying qualities, was the aim of the author of the previous editions of this work, and of his firm, and that this has been accomplished is proved by the records established for stamina and productiveness in all the birds which emanate from the home of the Orpingtons, and it behoves those who take this interesting study up, to pause to consider the points essential to success, and they will then realise that the laying qualities are all important in our English fowls, because eggs are such an important article of consumption in this country.





PRESENT-DAY POULTRY-KEEPING METHODS

COMPARED WITH THOSE OF PREVIOUS YEARS.

THOSE who have gone in for the keeping of fowls, selecting suitable birds for their requirements, and giving them the necessary oversight to ensure healthiness, have had every reason to be satisfied with the results obtained.

This favourable condition of things has been the result of the work of several ardent advocates of poultry-keeping for profit whose influence has been felt not only in the United Kingdom but in every part of the world where fowls are kept.

For many years it was uphill work, as it took a long time to remove the old rooted, but entirely erroneous, ideas and traditional usages amongst those who kept fowls, and who were principally the farmers in our rural districts.

Fortunately for all, a better system of management has been introduced, and many of the old customs in connection with poultry-keeping are now buried in oblivion.

Only a few of the present-day poultry-keepers have the least idea of the condition of things which existed about fifteen years ago.

When we visit the well-arranged poultry yards which abound in many parts of the country now, we cannot refrain from drawing a mental comparison between these, and

those homesteads where the poultry-keeping of England was formerly conducted.

Then the requirements of the birds were not understood: the houses were not suited for keeping the fowls in health, being badly arranged, and the condition of the fowls was most deplorable. In the first place, an entire absence of selection amongst the birds resulted in the propagation of fowls which were entirely unprofitable, and which could not have been made to pay had they been housed and managed in the most approved manner.

Then the general conditions of birds left much to be desired, as many of them were unhealthy, and had deteriorated from constant in-breeding.

Housing was not understood, and the high perches which were provided for the birds then are a sight to be remembered, and the outcome in many cases was, broken eggs in the oviduct, resulting in the loss of hens and pullets from apparently no cause. At that time, farmers and others were content to accept the effect without endeavouring to seek for the cause, and this want of interest resulted in heavy losses, and went far to confirm the constant plea that fowls could not be made to pay. It took some years for the farmer to see the wisdom of breeding only from profitable fowls for the custom of allowing all the birds to run together, and to collect the eggs in a promiscuous fashion was so firmly established that to kill the finest cocks which were reared, because they were mongrels—although related to both the hens and the pullets, being sons of the former and sisters to the latter—seemed to them an entire waste of good material.

It was the custom then to keep a few of the best-grown

cockerels from the spring or summer hatchings, letting them run during the following winter with the hens, irrespective of relationship or suitability for the purpose.

When first the advisability of selecting the best hens and pullets was suggested to them, with the object of mating them with strong vigorous cockerels of a pure breed, they altogether ridiculed the idea, and it was through a few of the more progressive amongst them who found selection among other classes of stock profitable, adopting this suggestion, and proving the advantage of doing so, that those who at first had scouted the idea of the expenditure of money for the purchase of new male birds saw that, after all, there was a good return for the investment when the time came to sell the young cockerels reared, while the pullets hatched proved to be good layers, and winter eggs, which had been up to that time practically unheard of, were forthcoming in small numbers.

English people may be slow to adopt any fresh suggestions which will overthrow their traditional mode of management, but when once an innovation has been made by some who are more enterprising than others, which yields a profit and shows a decided advance on the results of the past—they are sufficiently practical to do away with the old, and introduce the new.

In this direction more has been done than can be realised by those who are unacquainted with the former condition of things; many of those who style themselves experts nowadays are entirely ignorant as to the mode of poultry-keeping which was generally in vogue twenty or more years since, when there were only two classes of poultry-keepers; the farmers

and cottagers, who kept the birds which produced all the eggs which could really be called English eggs—although then, as now, many were sold as English which were produced on the other side of the Channel—and the exhibitors, who were the only fanciers of that day.

It is not to be wondered at that the idea of profitable poultry-keeping was ridiculed when one remembers the waste of good material which was given to the fowls in the form of food which could not be turned to good account by them, because of their condition of health, and their want of egg-producing qualities.

Feeding bad layers is an unprofitable undertaking at all times, but at that period it was particularly so, on account of the entire absence of the selection for the production of fowls which could lay.

Farmers saw their corn fed to the poultry month in and month out without any return whatever, and therefore they came to the conclusion that the keeping of fowls was attended with loss at all times.

At the present time the general principles of profitable poultry-keeping are very well understood, and it is not the question as to whether poultry-keeping can be made to pay or not, but how the biggest return can be gained from the fowls, which occupies the mind of the poultry-keeping public, which is so large that at the present time there are very few who do not know something about fowls.

For many years poultry-keeping was considered to be a subject too insignificant to be worthy of the leading agriculturists and our landed proprietors—who would not only not encourage their tenants in keeping of fowls, but who in many

cases absolutely forbade their doing so while in the occupation of their land.

Unfortunately the pessimistic tendencies of those who should have encouraged rather than discouraged the keeping of fowls did much to deter those who would have gone in for poultry at that time, so that the possibility of adequately supplying the English market with home produce has passed, and it is not difficult to explain the reason for this, because, had poultry-keeping been encouraged when food was cheaper, the position would have been gained without any difficulty by English producers which is now occupied by the foreigner; and the trade for eggs and table fowls has been benefiting others, whereas a large portion of it would, under other circumstances, have been distributed at home.

The foreign competition has done good, inasmuch as it has led many who study the market reports as well as the import returns, to ask the question whether it is possible or not to yet retain some of the money in England, and, as is always the case, the value of the imports being large has acted as an incentive to English people to take more interest in this one branch of produce in which money is to be made.

It does not require a great deal of argument to prove that the foreign imports will not now be materially reduced because the taste for good eggs and specially-fatted poultry has been so encouraged by the home producers supplying eggs and birds of good quality, as the result of the enlightenment on the subject which they have received by means of the advice from practical poultry-breeders who have given their neighbours the benefit of their own experience, and the help received from the publishers of the various journals

which have for years had the interests of poultry-keeping at heart, that the demand is always on the increase.

Were it possible to obtain a correct return of all eggs and poultry consumed in Great Britain, it would be found that the consumption of these delicacies had been more than doubled during the past ten years.

We, as English poultry-keepers, have to thank the persevering foreigners for exporting to us their poultry and eggs, which have created a sale for themselves in England and encouraged a taste for produce of an altogether higher grade, for at the present time, the demand for really good table poultry and guaranteed new-laid eggs is far in excess of the supply, and is likely to continue so for many years, so that there is room for a great many more poultry-keepers than there already are. Those who keep fowls still require to better understand the requirements of their birds, in order that they may get from them the best results possible.

The selection of the best layers to breed from is the fundamental principle in successful poultry-breeding. Bad layers should not be tolerated under any circumstances or conditions, as the mating of these for re-production means that the number of fowls which must inevitably cause disappointment to everyone who is unfortunate enough to get hold of them is very considerably increased, and the bad layers themselves will not yield a sufficient return in eggs to pay for the food they consume—leaving out of the question altogether that margin which should be forthcoming from every fowl to form the basis of profit to the owner.

Fowls which can only be a source of loss from the first should be discarded, as much disappointment will be saved,

and the first loss will be the only one, for bad layers generally carry a good deal of flesh, which can be turned to good account, whether roasted or boiled—the mode of cooking to be decided by the age of the birds which are being disposed of to make room for those which will yield a profit for their food, as well as afford the pleasure which paying fowls invariably give to their fortunate owners.

It is better economy to keep a few good layers than to aim at the possession of a number which have not been selected on their merits as layers. We all look for some return when there has been expenditure, and we have a right to do so, and fortunately enlightened poultry-keepers who understand the principles of success do not have to look in vain.

The vexed questions of foreign competition should not trouble any, but all should do their best to help forward the great poultry-keeping movement by taking care that every pullet and hen which they breed from is from a reliable laying strain, and then the birds produced from them will, in turn, again be profitable to the purchasers, and so much will be achieved by everyone who not only has their own individual interest at heart, but those of others to whom they may sell their surplus birds.

We, personally, are convinced that it is not possible for us to retain the vast sums of money paid annually by British consumers to foreign producers, as the bulk of our egg imports are placed on the markets at prices with which the English producer could not profitably compete, because it would not pay to produce them at the prices which make it profitable to the thousands of small producers on the Continent who keep their birds round their dwellings, giving them

the advantage of a free run, and much food which costs nothing, and which eggs are shipped to the English markets in bulk, but collected together by a regular system in small lots from the thrifty producers.

The very cheap eggs produced by the foreigners meet the wants of thousands of our working class population, who would not otherwise be able to indulge in eggs at all, and the demand in England for them is now so great that it is not possible for the shippers to hold the eggs from one month to another, as was formerly the case, so that the consumer benefits by fresher eggs than ever.

Many thousands who are employed in our factories and workshops would be quite unable to give higher prices than are charged for imported eggs, and they are compelled to live under conditions which make the keeping of fowls an impossibility. These workers would have to go without eggs altogether if they were prevented from obtaining the imported ones at prices within their reach.

The demand amongst the middle and upper classes for genuine new-laid eggs and well-fattened poultry is very large, and it is these classes for whom the poultry-keeper and farmer should make special efforts to cater.

With proper care and management the production of eggs is highly remunerative to the cottager and town dwellers, as well as to the agricultural farmer—all of whom can keep fowls without any additional expenditure in rent; and after the initial outlay for the house and run necessary for the accommodation of the fowls, and the stock to occupy same, no further expense is incurred, as the birds produce enough eggs to pay for their food, and a margin over, to go towards the outlay for their installation.

The small poultry-keeper should aim at the production of eggs principally, and leave for those who have more accommodation the breeding, rearing, and fattening of table poultry for sale.

There is no reason whatever why those who have a limited space at their command, should not successfully rear birds for their own table, but it is not advisable for them to attempt the production of table poultry on any other scale until they see that there is a local demand, and then they may consider the advisability of taking a place with more garden or ground attached to it, with a view of producing birds to meet that demand.

Egg production pays well, and all those who have a little spare ground at their disposal will do well to utilise it by keeping a few fowls, taking care to obtain these from a really good laying strain.

The demand for new-laid eggs during the autumn and winter among the middle classes is far in excess of the supply, and this is a branch of poultry-keeping which everyone, who has any spare land, should make special efforts to cultivate with proper care and management, as this is a department of the business which is not only highly remunerative, but one which gives the greatest pleasure.



RELATIVE VALUE OF BREEDS.

IT is necessary to consider fowls in two classes: (1) The utilitarian, and (2) the ornamental. Those which come under the first are very numerous, and comprise those breeds which are kept for profit, and as the qualities of the birds vary, it is necessary to sub-divide these into three classes: (a) Fowls which are egg producers and are kept for laying only; (b) general purpose fowls, combining good laying and table qualities; and (c) table birds only.

The useful fowls are kept in large numbers, as compared with the ornamental: because in these days when everyone is taught to make the most of their opportunities, and turn every inch of space to use—the fowls which possess money-making qualities recommend themselves to the poultry-keeper, and are consequently increasingly popular.

In order that the birds may make sufficient progress to keep pace with the times, paying qualities must be forthcoming, and when their appearance is pleasing also, an additional incentive is provided to those who are just commencing poultry-keeping. Opinions differ so widely as to the breeds which are really the most profitable for amateurs, and the selection of a breed is of such great moment to the would-be poultry-keeper, that we propose to deal with this

question at length here; also writing separately of each breed in its different varieties, to enable those who have had no previous experience to make a wise selection, so that they may not commence handicapped by a breed which is entirely unsuited to their soil and to their requirements.

Before proceeding further, it becomes necessary to emphasise the importance of realising that *strain* counts just as much as, and in some cases more than, *breed*, because when birds are raised year after year from stock over which no selection is exercised, the laying qualities are neglected instead of developed, and although the result of this want of care may be decent-looking birds, their productiveness is most disappointing to all who are unfortunately obliged to feed and care for any of the stock thus raised. When we remember the innumerable cases which have come under our personal notice of people who have been carefully feeding fowls—which no amount of care or good food could ever make profitable—looking eagerly for results, only to meet with disappointment, we feel that it behoves us to warn those who have had no experience with fowls against the purchase of any about which they know nothing, and to advise them to make sure they are securing birds which have been bred as the result of selection on their qualities as egg producers, for it must be the care of those who have seen others suffer from the result of inexperience to warn confiding new-beginners.

Amongst poultry-keepers there are two classes to be pitied—those who understand the management of fowls, and who treat birds as they should be treated, but who, owing to having secured birds of indifferent laying strains cannot hope

to be successful whilst they have their present stock—and those who have good layers, but do not know how to treat them, and who by overcrowded and indifferent feeding are preventing profitable results.

The former class are those who, in order to be successful, must clear their birds out, and replace by a less number of really good layers, and the latter would do well to set about and alter their housing and feeding arrangements without delay, in order that they may secure eggs for the prices to be realised will be found satisfactorily remunerative.

Unless the importance of the *strain*—which is equivalent to the pedigree or family history of more important stock—is realised, much disappointment instead of pleasurable occupation will be in store for the confiding poultry-keeper.

Those birds which have good egg-making machinery in them, will become active with very little persuasion—but if they have not, then no amount of good food, care, and attention can supply the deficiency.

There are, we are glad to say, some conscientious poultry-breeders who supply birds for laying and eggs for sittings to produce good layers, who really take care to sell to their customers birds and eggs from stock which are tested layers; but, on the other hand, there are many unscrupulous advertisers who profess to sell fowls which have been specially bred for laying, but which have been picked up anywhere, and those who purchase these are only buying trouble and disappointment.

Buyers of fowls for laying should either purchase from those who have a reputation to maintain, and who could not afford to sell birds which are other than they are represented

to be—viz., good layers—even if they might wish to do so, or in purchasing from other poultry-keepers they should make sure that the parent stock have been really good layers.

When one does not personally know the seller of the birds, or is doubtful as to his *bona fides*, he would do well to pay the rather higher price charged by a breeder of repute, and secure birds which he can depend on to produce eggs when they are wanted, as these very soon enable one to purchase more eggs, as the eggs fetch such good prices now.

We are glad to be able to record that each year the egg yield is more satisfactory, taking the country through: as people who keep fowls have good cause to know that it is the good layers which pay, and they naturally endeavour to secure these for following seasons.

Having considered the question of strain, it becomes essential to compare the relative qualities of breeds.

Amongst those coming under Class 1, we have (a) as layers, White, Black, and Brown Leghorns, and Black Minorcas, and (b) as general purpose fowls, all the varieties of the Orpingtons, and, although Wyandottes are not first-class table birds, they possess some claim to be classed as profitable for more than egg production, as they are very plump, juicy birds, which are acceptable for home consumption, although, on account of their yellow skins, which are so prized in the United States, from where they came, they do not fetch as good prices when it becomes necessary to sell them; either to personal friends, customers, or to the salesman, because the English ideal for a good table fowl is one possessing white skin and legs, and those which fall short of the requirements of the connoisseur have to be disposed of at prices

which are below those they would realise had they good white skins. Houdans are profitable general purpose fowls, as they are excellent layers, and table birds of very fine quality, although not of large size. Plymouth Rocks have lost much of their former prestige, as they do not now lay as well as they did formerly, and their bright-coloured flesh deters any from considering them appetising in appearance before they are cooked, although their flesh is moist, and of good flavour.

In the first division there are other breeds which are good layers, but which are not so popular as those mentioned on account of some drawback. For instance, Andalusians are not so largely kept as they would be on account of the difficulty in breeding the birds true to colour—for when the chickens are bred from the best stock obtainable, quite a number come white or black or splashed in colour, and consequently many have given up the breeding of Andalusians in favour of the Black Minorca, which always comes true to colour, and is a good layer.

Anconas, too, are not nearly so popular as they were, because they are still found to be so wild, and they have not made the headway in the show-pen as was expected. Campines also are not making progress.

The most popular fowls for egg production are undoubtedly the Leghorns and Wyandottes. The Black Leghorns have been taken up by all classes with much enthusiasm during the past two years, and they will continue to make great progress on account of their hardiness and marvellous laying qualities, and suitability for both town and country runs.

There are many enthusiastic admirers and breeders of White Leghorns, and deservedly so—the birds are more beautiful than ever now that their type has been so greatly improved, and they lay as well as ever they did. Then there are those who will not keep anything but Brown Leghorns, and these are certainly very handsome fowls.

Considering the Wyandottes as layers—the White variety has gained much popularity on account of its proved qualities in this direction, but our experience has been that the Partridge Wyandottes are in every way equal to the Whites, and the beauty of their plumage has to be seen to be able to be fully appreciated.

All varieties of the Orpingtons are good general purpose fowls, and it is just a matter of fancy as to which are taken up. The Blacks are the most beautiful black fowl we have, and are making steady headway. A well-bred pen of Buff Orpingtons on a grass run excites much admiration from all, and their qualities are too well known to need referring to. The Whites are, for the country, a most profitable fowl; and the Jubilee and Spangled varieties are making great progress, as they have splendid utilitarian qualities, combined with a most pleasing appearance.

Amongst the third class are those breeds which must be considered table birds only, viz., Indian Game and Dorkings.

Silver-Grey Dorkings have generally been classed as table fowls only, but during the past five years we have found our Silver-Greys lay well all the winter months, and these fowls are certainly unsurpassed for the table. They have a long deep breast, and are of delicious flavour, and the meat is of

fine texture. On account of these qualities the Dorking fowls will never die out as long as England stands.

They are used for crossing for table birds very largely, and mated with Buff Orpingtons have produced the finest table birds ever exhibited.

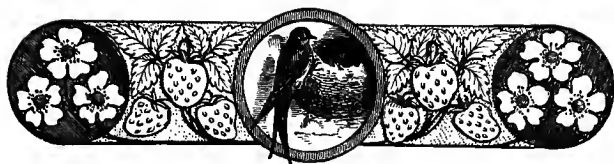
We always breed large numbers of both Silver and Coloured, because we find there is a great demand for them. Some have an idea that Dorking chickens are delicate, but provided that the birds are mated aright with fresh blood each year, this is not the case.

If Dorking chickens are reared away from other chickens, and not put too thickly on the ground, and allowed plenty of exercise, they keep healthy, and grow fairly fast. They are wonderful birds to feather quickly, and there are few birds that get their tail feathers more quickly than the Dorkings, and they can be reared very early in the season on this account.

The Silver-Grey Dorkings are exceptionally handsome birds, and are more popular now than they have been for ten years. Those seeing fine pens of well-bred birds of this breed, cannot fail to admire them, and when the young cockerels are killed they fetch the most remunerative prices for the table, and the best birds sell well for stock purposes, for the production of pure and cross-bred chickens.

Silver-Grey Dorking pullets lay well when reared on the ground they are to occupy later on, but do not do as well when moved from light soil to heavier ground.

The Indian Game are poor layers, but largely bred to cross for table purposes. In class (b) we find Polands, Creve Cœurs, Hamburgs, and all varieties of Bantams.



GENERAL PURPOSE FOWLS.

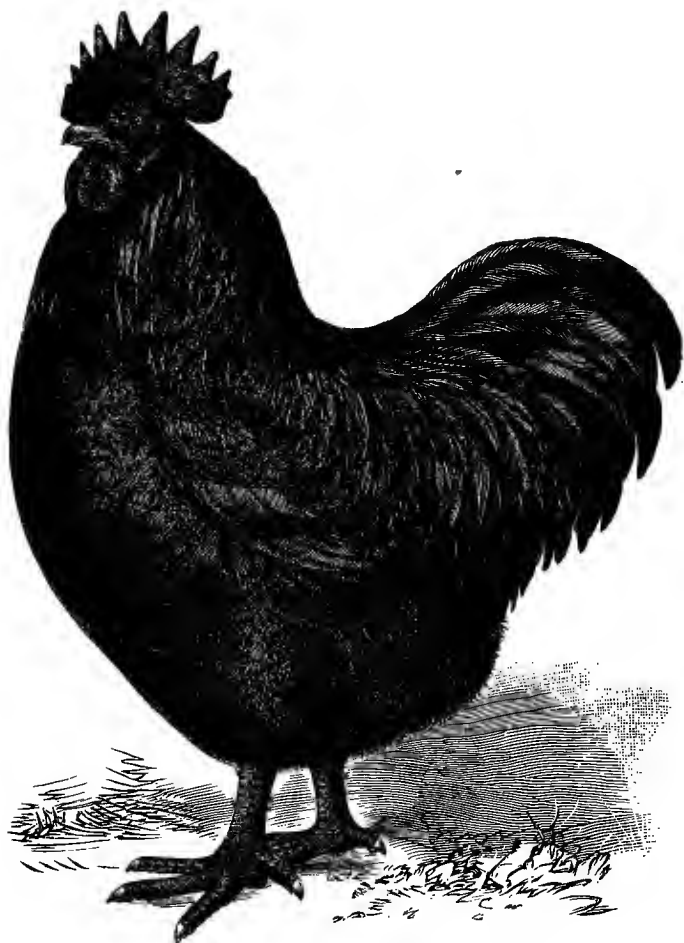
UNDER this heading we have those breeds—with their several varieties—which possess good laying and table qualities combined, enabling those who breed them to produce pullets which will prove satisfactory layers, and cockerels which will make good table birds. The quality of the flesh of the different breeds varies, and, owing to the premier position held for many years—and more than maintained at the present time—Orpingtons must, by reason of their qualities, head the list. The object of their originator was to give to the poultry-keeping public some fowls which combined the qualities of egg and flesh producers, which were sadly lacking in the fowls available during the eighties, which consisted of Barred Rocks, a few Silver Wyandottes—which were then of an entirely different type to those of the present day, as they were tall and narrow and did not possess the advantage of fleshening well—Langshans, Brahmas, Cochins, Dorkings, Leghorns, Minorcas, and different varieties of Game. He realised the requirements of those who, having only accommodation for a few fowls, did not care to have to purchase their chickens for table because of the too lean condition of the cockerels raised from their pen of non-sitting fowls which were kept for egg production, and could

see no reason why the development of the table qualities should in any way detract from the activity of the egg organs, provided the birds were bred from the right stock to accomplish the two objects. After breeding from various crosses of Minorcas, Langshans and Black Rocks for ten years, the

BLACK ORPINGTON

was produced. When first exhibited at the Dairy Show, in October, 1886, they created quite a furore amongst the fanciers, who saw in them an entirely different class of bird to any then popular. The excitement thus created led to a good deal of correspondence in the different poultry papers; some even predicted failure, on account of the popularity of several breeds which were then gaining headway, thus proving that they had not formed an accurate estimate of the possibilities of poultry-keeping, and the development and certain progress of breeds which had qualities of sterling merit to recommend them.

At that time their originator claimed for the Orpington the possession of qualities not to be found in any other fowls then before the public. Those who took the breed up on this recommendation have proved the truth of those words many times over, and at the present day, after the lapse of nearly twenty years, and now that he is no longer here to rejoice in the progress of the birds which were the pride and joy of his life, they stand pre-eminent as:—(1) Layers of brown-shelled eggs; (2) Table birds of excellent quality; (3) Handsome appearance, combined with hardiness and unlimited stamina; (4) Capital sitters and mothers when required.



BLACK ORPINGTON COCKEREL.



BLACK ORPINGTON HEN.

Bred and owned by William Cook and Sons.

Winner of more prizes than any hen living, and in 1905 of 1st The Hague; 1st Liège International; 1st in Black Breeding Pen at Park Royal; 1st Grantham; 1st and Special best in Show, Chatham; Ten Guinea Challenge Cup, Black Orpington Club Show, amongst many others. (Showing present-day exhibition type.)

Taking their qualities in the above order, they are certainly not only good autumn and winter layers, but also summer egg producers for those who understand how to check their broody propensities when not required for sitting purposes, and their good-sized, brown-shelled eggs give pleasure to all. As table birds they are not equalled, as their white flesh is of splendid texture and quality, and there is no trouble experienced in getting the birds to "fleshen" as with many other breeds. Their handsome appearance is admired by all lovers of the beautiful in form and symmetry, combining also a lovely sheen.

There are Rose and Single-Combed varieties, but the former have not made much headway, owing to the demand running entirely in the direction of the Single-Combed birds. As exhibition fowls there is a very large demand for Black Orpingtons, and those who win in the shows have no difficulty in disposing of all their eggs for sitting and every bird raised, at good prices, because this variety is particularly suited to the accommodation available in towns, and numbers of the keenest poultry-fanciers reside under conditions which prevent the possibility of having much space at their command, and yet whose object is to raise some chickens which will win, both in large and small shows, and these observant and enterprising poultry-keepers know that if they succeed in rearing good birds, a welcome addition is secured to their income; and as a breed for which there is a regular demand, the Black Orpington stands pre-eminent, possessing the advantage of being easily bred—double matings not being required—and the chickens being particularly hardy and thriving, grow well under any conditions, provided they are bred from the right stock and have the necessary food given them.

To refer to the prices realised by good Black Orpingtons would be to give surprise to the uninitiated, who will scarcely believe that quite a usual price for a cockerel for stock purposes is £5, and many birds are sold every season at from £30 to £50 each, for breeding exhibition stock from. The difference in the type of the exhibition stock and those kept for utility breeding, will be clearly seen by comparing the illustration of the noted winning hen appearing in this work with that of the pullet.

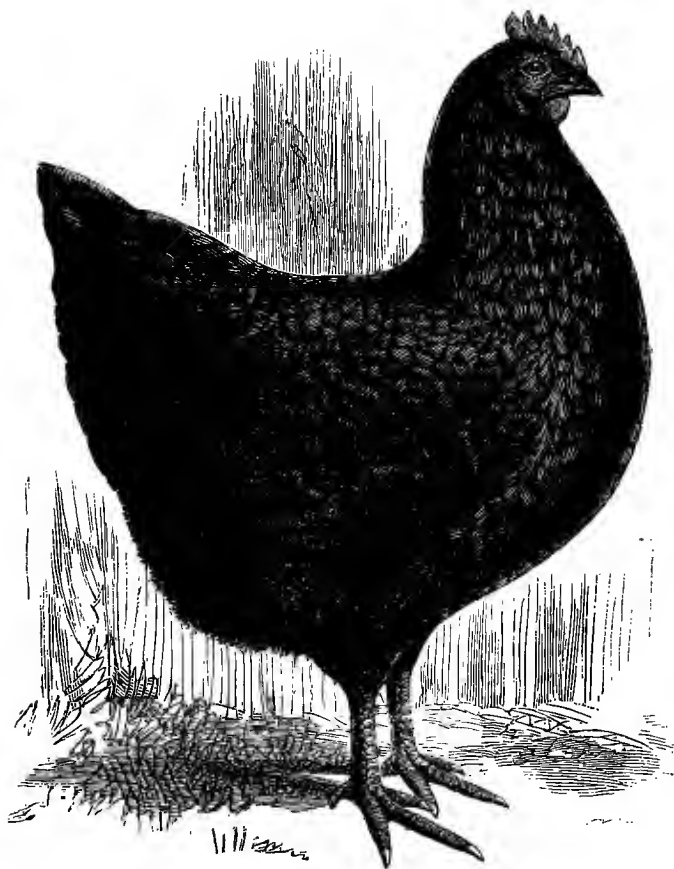
When the question is asked as to which is the most popular fowl in England, utilitarian poultry-keepers answer without any hesitation—the Buff Orpington.

BUFF ORPINGTONS.

It is a difficult matter to find a poultry yard—be it large or small, whether in town or country—where fowls are kept for general purposes without some birds of this variety there.

Introduced in 1890, this variety, which has put money into the pockets of thousands of poultry-keepers, is going ahead, and every year sees many breeders' names added to those already well known in the poultry world as Buff Orpington enthusiasts; and at the same time as one of, if not the most profitable breed for the combined production of brown-shelled eggs in abundance, and table birds of excellent quality, they are spreading with wonderful rapidity.

There is no breed which is so well suited to the requirements of the farmer as this, for the pullets and hens are excellent autumn and winter layers, and then, when broods are wanted in the early spring, they can be relied on to sit



BLACK ORPINGTON PULLET.
(OLD TYPE.)

well and bring off good broods, and as mothers they are not beaten by birds of any breed.

There is a "motherliness" about a Buff Orpington pullet or hen, which has just been cooped with her little brood, which cannot fail to appeal to every lover of fowls. They fulfil their mission as well in this direction as in the satisfactory production of the eggs necessary to enable the hatching of the chickens to be effected at the season when they are the most valuable, and, therefore, especially acceptable.

There is not another breed of fowls which can be so thoroughly utilised for all purposes as the Buff Orpington.

The true Orpingtons are money-making fowls for whoever takes them up, and when we stop to consider the features they possess, we see how thoroughly the requirements of poultry-keepers were studied by their originator. It is necessary, before enumerating their utilitarian qualities, to emphasise the fact that many birds which are sold as Buff Orpingtons are of very indifferent type, and having been bred in a careless manner, without any special selection having been made with the production of good layers in view—much disappointment has been given to purchasers who have bought these birds without realising the necessity of securing birds from a good laying strain combined with purity of type.

It is most essential to emphasise the fact that the strain is more than the breed on account of the many indifferent strains of popular varieties, which, although thoroughly profitable when selected for stock on their merits as layers and other useful qualities, are a great disappointment when this care is not exercised.

There are few requirements which are not filled by the

Buff Orpingtons, as they are hardy and easy to rear, when bred from healthy unrelated stock, and the pullets are most excellent layers of brown-shelled eggs.

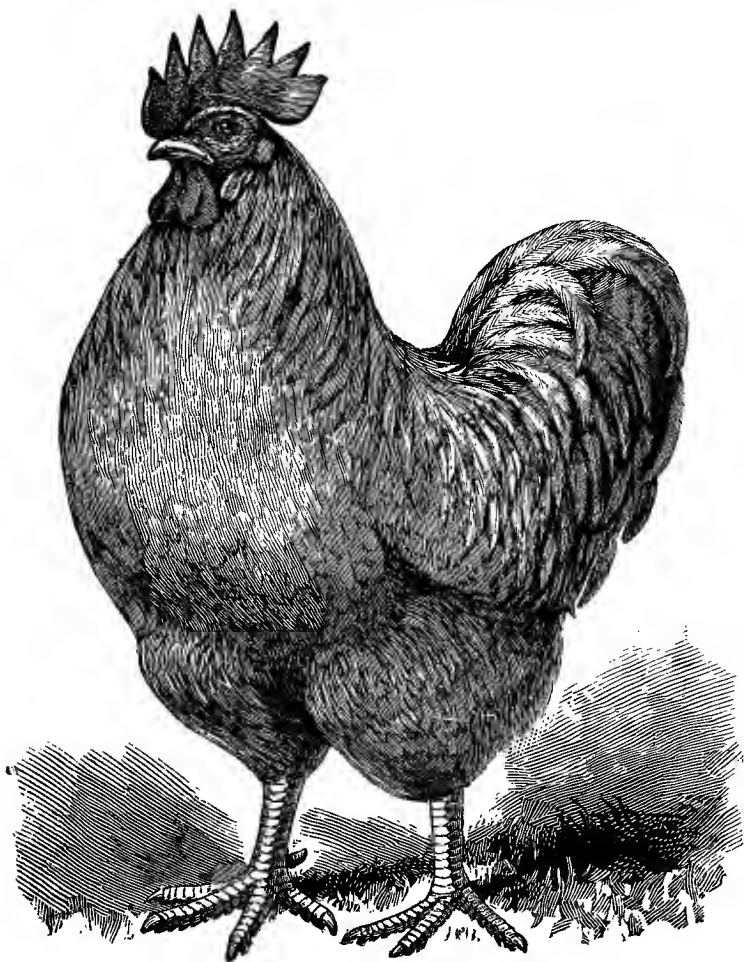
When the proper method of dealing with those who show signs of broodiness (but which are not required for sitting purposes) is fully understood, there is no difficulty in getting a continuous supply of eggs from a pen of birds made up of two or three different hatchings.

Directly a hen begins to show the first signs of becoming broody we immediately transfer it from the nest-box to the broody coop, with which all our runs are furnished. By this treatment we find that the pullets and hens often recommence laying immediately they are returned to the pen.

The frequently-heard complaint of the broodiness of the Orpington is due to the lack of knowledge on the part of those who attend to them, in allowing the birds to remain on the nest too long before the broody coop is requisitioned, and in consequence the bird takes longer to recover its normal condition, and probably does not recommence laying for three weeks or a month.

Buff Orpingtons are good all-the-year-round layers when properly managed, and are especially good autumn and winter layers; their eggs are rich in flavour, with the favourite brown and tinted shell loved by all housekeepers. We have some strains which produce eggs the shells of which are as deep in colour as those laid by Langshans, which are reputed to be the best dark brown egg-layers there are.

As table fowls they are of good quality, having an abundance of white flesh, which is of splendid flavour. The young Buff Orpingtons are fine table birds when well fed: they are



BUFF ORPINGTON COCKEREL.

remarkably plump, and when specially fattened it is hard to equal them.

The Buff Orpington is no exception to the general rule of all Buff breeds, in that a good percentage of the birds bred—even from the very best stock—throw white and black feathers in their plumage.

It requires a lot of careful mating to produce an evenly-coloured buff bird throughout, in the Orpingtons, just as it does in the Buff Leghorns, Cochins, and Rock; but each year the quality of the birds bred is improving, and a much better evenness of colour is seen in the birds raised from the average class of stock now than was the case two years ago.

As a basis for a flock of good table fowls, the mismarked pullets can be utilised to good advantage, as, mated with an Indian Game or Silver-Grey Dorking cockerel, the progeny have splendid breast meat, and these crosses are giving great satisfaction everywhere. Those who have a number of mismarked Buff Orpington pullets cannot do better than mate them with a cockerel of either breed, as the progeny make such fine table birds and really good layers when the cockerels are procured from good laying strains: as this makes all the difference to the laying qualities of the young birds.

The Houdan-Buff Orpington cross is, undoubtedly, the most popular all-round cross there is for small poultry-keepers, as they are an ideal fowl both for laying and table purposes, especially for those who want an inexpensive but profitable kind for egg production, and medium sized plump table fowls of an excellent quality.

It is not only as a pure breed that the Buff Orpington has gained in popularity, but for crossing purposes there is a

very large demand for those birds which fall so far short of the standard as to have to be discarded from the pens which are mated for the production of pure fowls, by reason of faults in their plumage, etc. Cockerels of this class, mated with cross-bred hens and pullets, very materially improve the quality of their progeny, as the male birds raised are fine fowls for the table, and the pullets first-rate layers.

It is not possible to put a good strong vigorous Buff Orpington cockerel in the wrong place, as the vitality and stamina of the breed will be apparent in the young birds produced, being much hardier and quicker growers than birds bred from many other breeds. No matter how many other breeds there may be in the pens, the Buff Orpington raises the quality of the birds in a distinctive manner.

No one who has seen a flock of well-bred birds of this breed on a grass run can wonder at their popularity. They are not only beautiful in colour, but their carriage is most pleasing, and those who seek for harmony in colouring, as well as beauty of outline, find in the Buff Orpingtons plenty to satisfy them in their love of handsome birds.

The demand for good-coloured typical Buff Orpingtons is greatly on the increase, and the difficulty experienced in getting perfect birds acts as an incentive to those breeders who aim at accomplishing more than others.

The competition in Buff Orpingtons has never before been as keen as now, and to possess winners good enough to win at the Club Shows is the aim of many, although attained by few.

There are those who are making a good living from breeding good-class Buff Orpingtons alone, and that there will be

plenty of business in the future is evidenced by the many refusals to sell which those who have been desirous of buying have recently received when applying to successful exhibitors for some of their birds.

There is money to be made by devoting one's time to the production of typical high-class Orpingtons, and those who purchase birds at good prices should be careful to get them from reputed breeders, who will mate them carefully with a view to the best results, and from those who have their reputation to sustain.

The fact of birds having won prizes is not to ensure success in breeding, as so much depends upon how the birds are bred, and then whether they are mated to the best advantage, therefore amateurs would do well to place themselves in the hands of reliable breeders, who will serve them well.

As an investment, a pen of Orpingtons of good quality and properly mated is the soundest of any, as the demand for good birds is so greatly in excess of the supply, and all those birds reared which are not up to the standard fetch remunerative prices.

We find that our prize-bred pullets lay quite as many eggs as those which are specially bred for laying purposes, and these remarks apply equally to all varieties of Orpingtons.

These fowls, which were introduced as utility fowls, have popularised the village of Orpington throughout the world.

It would not have been possible to have done this had the fowls not possessed qualities which were the birds' own recommendation wherever they went, because, although it is possible to achieve a good deal by advertising a new thing, ultimate success is not ensured unless the article thus popu-

larised speaks for itself when in use, and the sterling qualities of Orpington fowls have won for them a popularity and lasting place in the poultry world, and in spite of the high prices made for birds of true standard type at the present day, and which every true Orpington fancier is pleased to know of, we still contend that the fame of the birds is entirely due to their excellent qualities as good layers and table birds.

The Buff variety of Orpingtons have equally as much right to their name as had the Blacks, for they were brought out in the same village, by the same man, and although the same breeds were not used in their composition as in the Blacks, they were, and are, the same type of fowl, different only in the colour of their plumage.

All difference of opinion as to their right to the name of Orpington is a thing of the past now, and they are accepted by every one. It seems to us scarcely necessary to go into the show points of these birds, because they are so well known, it being a difficult matter to visit any place where fowls are kept and not find some birds of this breed.

There are, of course, many poor specimens of Buff Orpingtons to be found everywhere, and some of those which are spoken of as Buff Orpingtons we should scarcely recognise as such if they owners had not taken the trouble to tell us what they call them, and we usually find on enquiry that they are the result of mating Buff Orpington cockerels with the ordinary farmyard hens found on nearly every farm in England, where up-to-date methods are not in vogue.

Of course, these fowls, although a great improvement on the ordinary farmyard birds, would not possess the qualities of the pure Orpingtons, and we have frequently found that

a good many pullets have been advertised and sold as pure Buff Orpingtons because the male birds used the previous season in the farmyard were hatched from eggs obtained from a breeder of Buff Orpingtons!

It is not at all a difficult matter to find out how it is that a good many so-called Buff Orpingtons are very indifferent layers, and do not give nearly as good an account of themselves as those bred from pure strains, the fowls of which are specially selected for the stock pens on their merits as really good layers.

In conclusion, we wish to most emphatically contradict the statements recently revived that Buff Orpingtons are "Lincolnshire Buffs." They have always been a distinct variety, and there have been more Buff Orpington cockerels sold to Lincolnshire farmers to improve the utility qualities of the birds than to farmers in every other county, and now that a great improvement has been made by the constant infusion of our Buff Orpington blood with the buff fowls which have been bred for a good many years in Lincolnshire, there are those who wish to claim the Buff Orpington as the fowl of that county. It is, to say the least of it, a very poor return for the benefits received by the Lincolnshire farmers from their Originator, who did more for poultry industry in that and other counties than all the other poultry-breeders who have helped forward, in some measure, profitable poultry-keeping; yet, after all, there are always those left who find it hard to pay honour to whom it is due.

If the Lincolnshire Buff, in its original state, possessed half the qualities of the Buff Orpingtons, it would hold a position of its own in the poultry world other than it does

to-day, although it cannot be denied that the Buff Orpington crossed with the Lincolnshire buff fowls are a great improvement on the old Lincolnshires.

WHITE ORPINGTONS.

This variety was introduced in 1892, and although they have been bred for so many years it has not yet been possible to supply the demand for them in the United Kingdom, the Colonies and on the Continent, while in the United States they are making the most rapid headway.

It is not possible for those who are not in touch with the poultry world in general to understand the great progress which is being made by certain breeds. It is generally considered that the popularity of a breed can be gauged by the number of birds of that breed or variety which are seen together in each of the shows.

This is one way of judging of the progress of fowls, and yet there are a large number of people who keep a pen or two of fowls in which they are deeply interested, and from these quite a number of chickens are bred annually, but none of these are ever sent to an exhibition, small or large, and included in this class of poultry-keepers are to be numbered many who keep the White Orpingtons.

There are many who keep fowls entirely for the pleasure of seeing beautiful birds about, and it is amongst this class that the White Orpingtons have become very popular.

These fowls are kept on large estates where they have a free range, and to which they form an ever-pleasing ornament. Combined with their beautiful appearance, which appeals to all who see a really good pen of birds, they possess the

finest laying qualities it is possible to get in a brown egg-laying breed, while they are also first-class table birds.

Numbers of pullets hatched in March and April lay regularly from September and October onwards throughout the winter until the spring, and are not once influenced in their production of eggs by the many changes in the weather experienced in the meantime.

White Orpingtons will continue to make record progress, as white-plumaged birds exert a fascinating influence over many, who, seeing them for the first time, recognise in them their full beauty, and the impression made is a lasting one.

This is not to be wondered at when the points of the birds are studied, for while standing in a large grass field watching the stately male birds taking their hens and pullets about, one cannot but help expressing admiration at their symmetry and beautiful outline.

There is a particular charm about a White Orpington pullet when she has come to maturity and before she has been in the breeding pen for some time; the purity of her plumage and white legs contrasts so well with the red comb and face, and combined with the shapeliness there is a suggestiveness of usefulness and motherhood which appeals to every one who sees these birds when they have just come to maturity.

This can be noticed in the show pens at the earlier shows when the birds are at their best, but it is even more noticeable when they are out on a grass field, and after throwing a little corn to them the pullets are attracted close enough to be critically examined.

There is a particularly contented look about the birds, and they convey the impression that they live with a purpose, as their build suggests usefulness.

It is not possible to fully appreciate the table qualities of the White Orpingtons until there has been a practical demonstration of them. The flesh of the birds is so white and of such a delicate flavour that we have frequently heard those who have partaken of a portion of a roasted White Orpington chicken, express the opinion that they are an ideal table fowl.

They fatten well without being fattened, but when specially fattened they make exceptionally fine birds.

We do not know of any white-feathered variety to come up to the White Orpingtons for egg production, and the shells of their eggs are well coloured.

Those who have grass or wood land, and who like really handsome fowls which are all-round good layers, table birds, good sitters and mothers, cannot do better than go in for some White Orpingtons, as they will not only have useful fowls from the utilitarian point of view, but will be able to sell all their surplus birds at most profitable prices, as the demand is so large for them.

The White Orpingtons are of exactly the same type as the Buffs, differing only in colour of plumage, which is of pure white colour. They breed very true to colour, a mis-marked bird is a rarity, and we have every confidence in saying that they will give every purchaser much pleasure, and will also prove a profitable investment.

We predict for the White Orpingtons equally as much popularity as the Buff for poultry-keepers in this country.

They are kept and bred in towns, and in several instances we have known winners to be bred in close confinement, their surroundings necessitating a very thorough wash before being staged alongside of their more fortunate companions, which



CHAMPION WHITE ORPINGTONS.

Bred and owned by William Cook and Sons.

Cock winner of 1st, special, and fifteen guinea challenge cup, White Orpington Club Show, Alexandra Palace, 1905 (International); 1st Wimborne; 1st and special for best Orpington in Show, Gravesend; pullet—1st and special at Club Show, Alexandra Palace, 1905 (International); and two hens—winners of 1st Dairy (1904), 2nd Club Show (1904), 1st and special Hatfield, 1st and special Horsham, 1st Birkenhead, and many other prizes.

Oscentford Farm, Chichester

had been reared amongst the pleasant cleanliness of the country.

It is a great advantage to amateurs that this variety breed so true to colour, as, provided that the birds are really well-bred, and well treated when chickens, there is not any difficulty experienced in rearing birds of the highest standard by those who have not had much experience in raising high-class chickens.

When fully feathered they are not as disappointing as the birds of several breeds, as they are uniform in appearance and colour.

There are a good many poultry-keepers whose aim is to rear birds which are good enough to successfully compete with others, and in taking up one of the varieties in which there is not as much competition as in others, and yet for which good classification is provided, they are able to accomplish their object.

The Variety Orpingtons (viz., White, Jubilee and Spangled) offer an excellent opportunity to those who wish to combine good useful qualities with the possibility of successful exhibition of their best birds, as the competition is not at present so keen in these varieties and the opportunities of winning are very good.

Secretaries of many provincial shows are providing classes for these birds now, and the cups and special prizes to be won are sufficiently numerous as to encourage poultry-keepers to endeavour to secure some of these for themselves.

The reason for the success of all the Orpingtons is undoubtedly the possession of a combination of qualities not to be found in any other breed of fowls; and their successes

in the show pen, where they are certainly the most popular of all fowls, has not in any way interfered with their useful qualities, and their beautiful appearance there has been the means of inducing many to go in for them just for their own use, as well as others who have taken them up for exhibition.

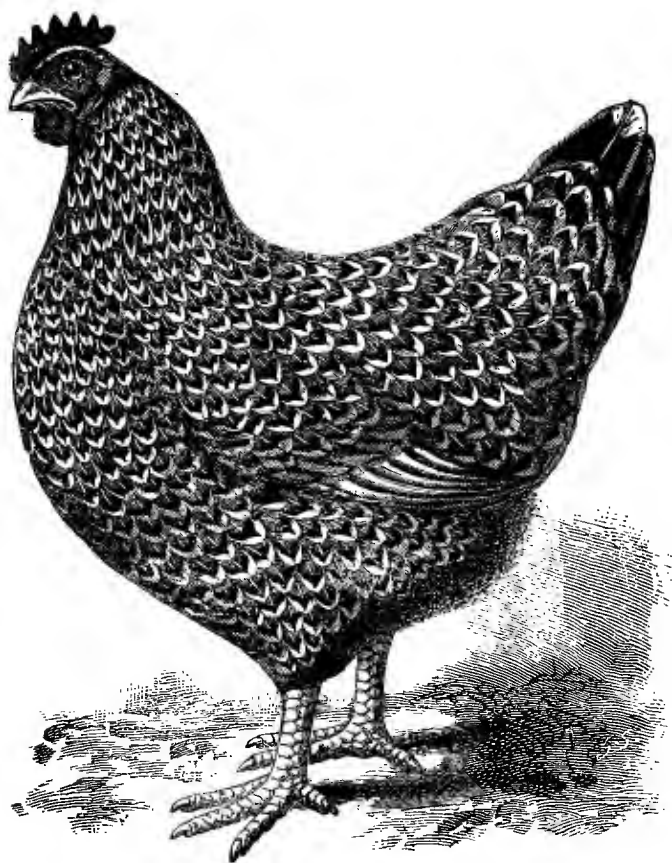
JUBILEE ORPINGTONS.

When these fowls were introduced in 1897, there were many comments on their pretty speckled appearance, as few poultry-keepers had any idea that any but self-coloured fowls would be forthcoming in the Orpington family.

Since then they have made remarkable progress—being valued by those who have them as excellent layers, and possessing particularly good table qualities—their flesh being very fine and white in texture, and remarkably tender when cooked.

Each year brings more enthusiasts for the Jubilee variety, and they certainly have beaten many varieties which have been out much longer; and cannot do otherwise than make progress, as they have so many excellent qualities to recommend them, as well as their pleasing appearance.

As layers of fair-sized tinted eggs, and table birds of most excellent quality, it is difficult to beat them. They have been taken up by many amateur poultry-keepers during the last year for exhibition purposes, and having given great pleasure to them, as the competition is not nearly as keen in this variety as in others, and as the classification at shows is most liberal, the amateur has an excellent opportunity of exhibiting the birds successfully.



JUBILEE ORPINGTON PULLET.

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Several whom we personally know, who have not previously exhibited fowls, won first prizes and specials with this breed obtained from purchased sittings during the last two seasons, much to their delight.

There are many who like to see their birds exhibited in friendly rivalry with others, and when the birds possess, as these do, most excellent utility qualities, they are more valuable to small poultry-keepers. The Jubilee Orpingtons are fine handsome birds, the cockerels having a great deal of pluck and "go" about them.

In their pure state they are thoroughly profitable, and will continue to make great headway. Several leading fanciers have taken them up, and there is not a doubt as to their continued successful career. Many of those whom we have the pleasure of conducting round our farm stop to admire our pens of Jubilee Orpingtons—the cockerels so gay in their plumage, and the pullets evenly speckled all over, and when they look in the nests, and see the eggs, they generally make up their mind to go in for a few of them.

We do not know of any breed which is so well suited to the requirements of those who fatten for the market, and, therefore, require very fine birds of excellent quality and really good layers at the same time. They are very hardy and easy to rear, and grand all-round birds. We have sold a great many of them to the Sussex poultry-keepers, who rear fowls for the market on a large scale, and get repeat orders every year for them.

For mating with cross-bred or mongrel hens, Jubilee Orpington cockerels are very largely used, and a bird of this breed makes a most profitable investment to the small poul-

try-keeper who has a few fowls, and wishes to increase the number of eggs from the progeny, and to improve their table qualities—as the pullets bred from these matings are splendid layers, and the cockerels very fine table birds.

For use on a farm there is no better breed than this, as the vitality of the cockerels makes itself seen in the progeny. The cockerels are very vigorous birds, and the chickens bred from the mating of Jubilee Orpington cockerels with cross-bred hens thrive wonderfully.

This variety is recommended to those who want to make their poultry pay from a utilitarian point of view, as well as to those who want a popular breed for which there is a good sale at remunerative prices. Whether used for crossing or in their pure state they cannot fail to give satisfaction.

Some people do not like a fowl which is not self-coloured, and therefore would not care for the appearance of Jubilees, as they are prettily marked. We often think it is a good thing that we do not all admire the same kind of fowls, just as we have different fancies for flowers, and like things around us of different tone and colour from other members of the community.

Should it have happened that all poultry-keepers fancied fowls of one colour or breed, and they kept only these, it would have robbed us of the pleasing variety we possess at the present time. Everyone can indulge their fancies now, for varieties of poultry have never before been as beautiful as they are; and no matter whether buff, black, white, cuckoo, or partridge-coloured fowls of light or heavy weight are preferred, the individual fanciers of each can be fully satisfied.

Those who have taken up the Jubilee Orpingtons have been well pleased with them in every way, as they are capital layers, very fine table birds, and the demand for birds of the best type is greatly on the increase.

They are a popular variety for exhibition, and have been taken up enthusiastically by breeders of many years' experience, who see that there is money in them.

After their introduction in Jubilee year, they were taken up with enthusiasm then, and have continued to make headway every year since. As some of our readers are aware, Her late Majesty Queen Victoria accepted a pen of these fowls from us when we introduced them, and was so pleased with the eggs they laid, and the flavour of the birds on the table, that fresh blood was purchased from us to maintain the stock, and since her death we have been told that when away from Windsor, eggs were always sent to her from these birds, as she preferred them to any other.

In a Review of her Home Farm, which appeared some time since, we read that when in the South of France, eggs and young birds of the Diamond Jubilee Orpingtons were always sent from the Home Farm for Her Majesty's consumption. They have always been considered the most delicate-flavoured birds it is possible to get, and their eggs have a delicious creamy taste, which is most agreeable to the palate.

SPANGLED ORPINGTONS.

This, the last variety of the Orpingtons, was introduced in 1900.

These birds are very pretty in appearance and excellent layers. All the Orpingtons are good layers when bred from strains which have been bred for egg production, but we

have heard complaints of some of the other varieties as to egg production, generally through mismanagement on the part of those who have bred them, but have never yet heard from one poultry-keeper who complained of having bad layers amongst their Spangled Orpingtons, or the Jubilees.

These varieties are full of that fresh blood which is so essential to the production of eggs in abundance, and those who have already gone in for every variety of this breed have found that the possession of the qualities which we claim for them is their just due.

Spangled Orpingtons are a little smaller than the others, and are particularly good layers. For egg production they are not beaten by any fowls, combined with brown and tinted eggs. They are table birds of excellent quality, very plump and small-boned, the flesh being of a particularly delicate flavour.

This variety is destined to be equally as popular as the others when their qualities are fully tested, as they are such good layers, and are less broody than the other varieties, and the colour of their plumage is particularly pretty, being a dense black and a clear white, very nicely spangled all over.

It is very unusual to find any other than excellent laying qualities in new breeds, because that blending of fresh blood which is necessary to the making of the birds has the effect of stimulating the activity of the egg organs. The Spangled Orpington chickens are remarkably hardy, and particularly easy to rear.

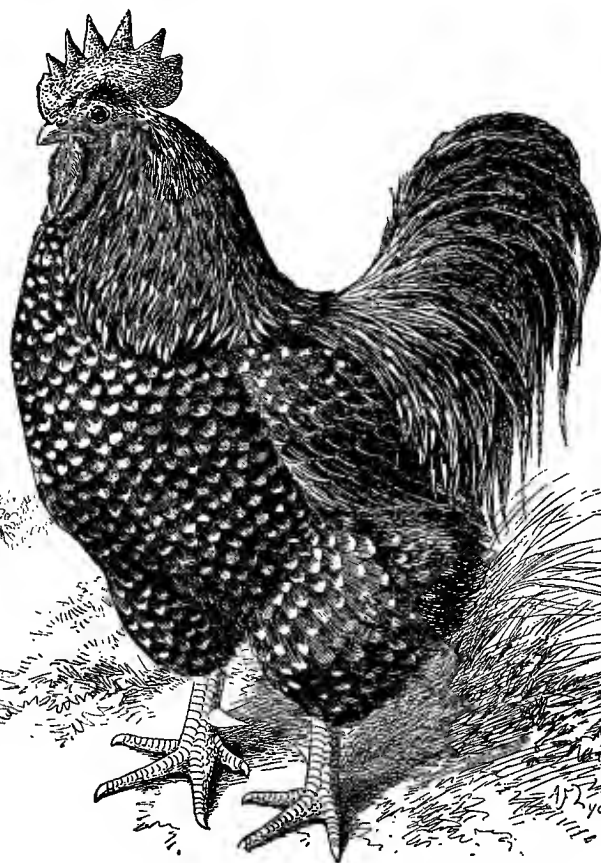
The ground colour of the plumage is black, nicely broken with white, the pullets and hens of even markings all over.



JUBILEE ORPINGTON COCKEREL.

Bred and owned by William Cook and Sons.

Winner of 1st two specials and fifteen-guinea challenge cup, Variety Orpington Club Show Alexandra Palace; challenge cup, 1st and special Dairy Show; 1st and special Haywards Heath; 1st and special, Peterboro'; 1st and special, Caterham.



SPANGLED ORPINGTON COCK.

The eye is brown ; beak, black and white ; four toes on each foot ; clean on the legs, which should be speckled, similar to the Houdan, and in some cases the pullets have dark legs, which get lighter as they grow older, the dark-plumaged birds being darkest in the leg. The single comb stands erect and is evenly serrated. The cocks and cockerels have more white in the wing, and the principal tail feathers should be white, edged with black, the breast being spangled exactly the same as in the hens. The neck hackles and saddle feathers correspond, black and white. The pullets breed very true for a new variety. Out of one flock of 100, we have not bred any which were seriously mismarked in plumage, the only variation being in the legs. In another flock of 150, only five pullets were mismarked.

Some people have suggested that the colouring of the Ancona induced the introduction of this variety, but they occupied eight years to breed to the present standard, and no Ancona blood has ever been introduced into them.

There is a great difficulty about the Anconas, on account of the cockerels being so small that they are no use for table, but the Spangled Orpington overcomes this objection entirely, as the cockerels are grand table birds, and the pullets are such good layers that they are particularly profitable as well as a very pretty breed of fowls.

There is a great advantage to those who go in for one of the new varieties, as when they get good birds there is not so much competition when they are exhibited, and there is a better chance of success. There is very good classification at shows for the Variety Orpingtons, viz. : White, Jubilee, and Spangled, and the interests of these are being looked after

by the Variety Orpington Club, which provides handsome silver specials at many shows, in addition to the three very handsome £15 15s. Challenge Cups, which are competed for annually at the Club Show.

As all-round fowls, good layers and table birds, these birds give great satisfaction, and they are a variety which pays to keep and breed for exhibition also.

Cockerels which are not sufficiently well marked for pure breeding form a good investment for those who have mixed fowls which they want to mate to produce really good layers and table birds from.

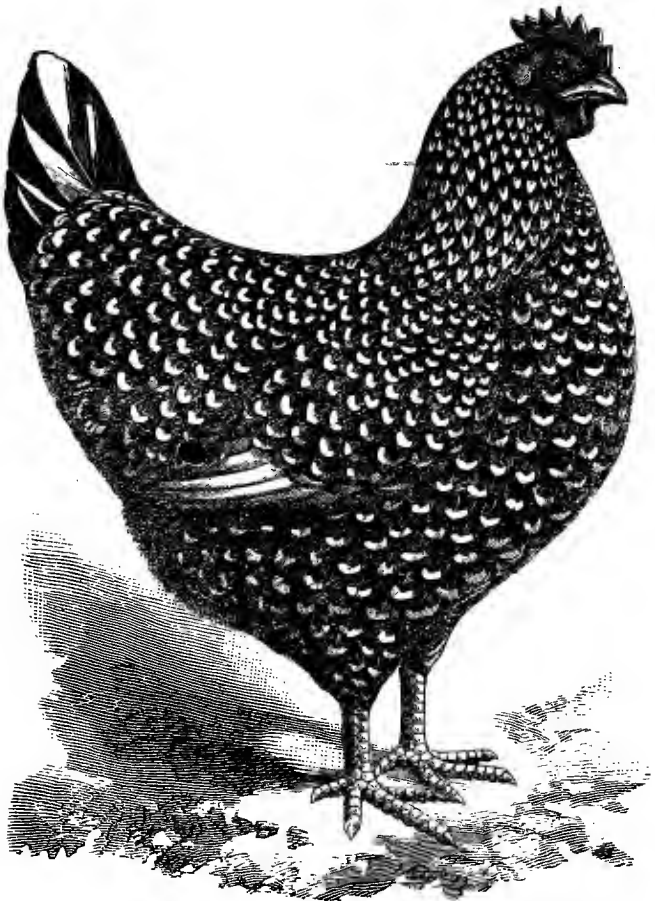
The following is the standard of Orpingtons in its five varieties:—

GENERAL CHARACTERISTICS OF COCK.

Head and Neck.—**Head:** Small, neat, fairly full over the eye, carried erect. **Beak:** Strong and nicely curved. **Eye:** Full, bright, and intelligent. **Comb:** Single or rose. The single comb to be of medium size, erect, evenly serrated, free from side sprigs. The rose comb should be set straight and firmly on the head, full of fine work or spikes, free from hollow in centre, and narrowing behind to a distinct peak lying well down to head (not sticking up). **Ear-lobes:** Medium length and rather long. **Wattles:** Medium length and well rounded. **Neck:** Nicely curved, with full hackle.

Body.—**Breast:** Broad, deep, and full, carried well forward, long straight breast-bone. **Back:** Short, with broad shoulders. **Saddle:** Rising slightly, with full hackle. **Wings:** Well formed and carried close to the body. **Skin:** Thin and fine in texture. **Flesh:** Firm.

Tail.—Medium size, flowing and inclined backwards.



SPANGLED ORPINGTON PULLET.

Legs and feet.—Thighs: Short. Shanks: Short and strong. Toes: Four in number, well spread.

General shape and carriage.—Cobby and compact; erect and graceful.

Size and weight.—Large. Between 9 lbs. and 10 lbs. when fully matured.

Plumage.—Close.

GENERAL CHARACTERISTICS OF HEN.

Head and Neck.—As in the cock.

Body.—Breast, Back, and Wings: As in the cock. Cushion: Small, but sufficient to give the back a short and graceful curved appearance. Skin and flesh: As in the cock.

Tail.—Medium size, inclined backward and upward.

Legs and feet.—As in the cock.

General shape and carriage: As in the cock.

Size and weight.—Large. About 7 lbs. or 8lbs. when fully matured.

Plumage.—Close.

In both Sexes.—Beak: White or horn colour. Eye: Black, with dark brown iris. Comb, Face, Ear-lobes, and Wattles: Red. Shanks: Black. Skin and Flesh: White. Plumage: Black throughout, with a green sheen or lustre upon it, free from coloured feathers.

COLOUR IN BUFF ORPINGTONS.

In both Sexes.—Beak: White or horn colour. Eye: Red or brown, the former preferred. Comb, Face, Ear-lobes, and Wattles: Red. Shanks: White. Skin and Flesh: White. Plumage: Any shade of buff from lemon-buff to rich buff, on the one side avoiding washiness, and on the other side a

reddish tinge. The colour to be perfectly uniform throughout, allowing for the greater lustre on the hackle and saddle feathers, and of the wing bow in the case of the cock only.

VALUE OF POINTS IN BLACK ORPINGTONS.

Cock or Hen.

Defects.	Deduct up to
Defects in plumage and condition	10
„ head, 5 ; comb, 7 ; face, 5 ; beak, 3 ;	
eye, 5	25
„ breast	10
„ saddle or cushion and back	5
„ tail	5
„ legs and feet	5
„ skin and flesh	5
Want of shape	15
Defect in carriage	10
Want of size	10

A perfect bird to count 100

VALUE OF POINTS IN BUFF ORPINGTONS.

Cock or Hen.

Defects.	Deduct up to.
Defects in head and comb	10
Defects in colour	35
Want of shape	20
Want of size	10
Defects in legs and feet	15
Want of condition	10

A perfect bird to count 100



BUFF ORPINGTON COCHENS owned by William Cook and Sons.

Coch, twice winner of 1st and challenge cup, Club Show, 1st Lord Tredgar's (New orl, Mon.), 1st and cup Birmingham; and three times winner of many prizes including 1st Yearling, 1st Birdington, 1st and special Knolly, 1st and two specials Birdington, 1st and special Downend, 1st and special Kadstock, 1st and special Kingwood, 1st Royal Counties (Gentleford) 1st and special Cheltenham, 1st Somerset County, 1st Portsmouth, 1st Cardiff, 2nd Bradford-on-Avon, 3rd Devon County 1st Mountain Ash, 1st Kerthorpe 1st Sandy, 1st Weymouth, 1st Portham, 1st and special and gold medal for the best Orpington in show, Ulverston, reserve Club Show, 2nd Newport, Mon. (Lord Tredgar's), 1st Harrow, 1st and two specials, viz: special for best Buff Orpington and for the best Buff Orpington hen at Grand International (Ulrecht), 1st and special for best Buff Orpington female, Brussels, 1st Paris, 1st Cravenhase, 1st and special for the best Buff Orpington at Sloughbridge.

Serious defects, for which birds should be passed: Other than four toes; wry tail or any deformity; the slightest feather or fluff on legs or feet; long legs; yellow skin; twist or side spikes in comb, or comb over to one side; yellow in legs or feet. In Blacks.—Any coloured feathers. In Buffs.—Any white or much black in tail or flights. Legs any colour but white.

COLOUR IN WHITE ORPINGTONS.

In both Sexes.—Beak: White. Eye: Red. Comb, Face, Ear-lobes, and Wattles: Red. Shanks: White. Skin and Flesh: White. Plumage: Pure snow white, with a good lustre; free from any foreign colour.

VALUE OF POINTS.

Head	10
Colour	30
Condition	15
Legs and feet	15
Size and type	30
	100

COLOUR IN JUBILEE ORPINGTONS.

In both Sexes.—Beak: White or horn colour. Eye: Red or brown, the former preferred. Comb, Face, Ear-lobes, and Wattles: Red. Shanks and Feet: White or pinky-white. A little horn colour not to be considered a disqualification for the present. Toe-Nails: White or horn. Skin and Flesh: White.

In the Cock.—Plumage.—N.B.—The term “mahogany” in

this standard to be taken as meaning "bright mahogany: not dark nor maroon in shade."

Neck Hackle.—Mahogany, with black stripe and white tip; the shaft mahogany, of same shade as feather.

Saddle Hackle.—To match neck hackle.

Back.—To follow neck and saddle.

Breast.—Mahogany, with black spangle and white tip; the three colours well broken, and showing in equal proportions, avoiding a ticked effect on the one hand, and a blotchy effect on the other.

Wings.—Wing Bow: To follow hackle. Wing bar: Black. Secondaries: Mahogany, black, and white. Flights: Ditto, but more white.

Tail.—Sickles: White; or black and white, or mahogany, black, and white. True Tail Feathers: Ditto. Coverts: Black, edged with mahogany and white tips. Thighs and fluff: To follow breast.

In the Hen.—Head and Neck: To match cock, allowing for difference of sex.

Body, Breast, and Back.—Mahogany, with black spangles and white tips; the shaft mahogany, of the same shade as feather. The three colours well broken, and showing in equal proportions, avoiding a ticked effect on the one hand, and a blotchy effect on the other; the effect to be uniform throughout the bird. Wings: As body, with flights as in cock. Tail: To follow the cock. Thighs and Fluff: To follow the breast.

VALUE OF POINTS.

Head	10
Colour	35
Condition	15
Legs and feet	10
Size and Type	30
	100

COLOUR OF SPANGLED ORPINGTONS.

In both Sexes.—Beak: Black, or black and white. Eye: Brown. Comb, Face, Ear-lobes, and Wattles: Red. Shanks and Feet: Black and white; mottled as evenly as possible. Toe-Nails: White. Skin and Flesh: White.

Plumage.—In the Cock.—Neck Hackles: Black and white tips.

Saddle Hackles.—Ditto.

Back.—Black, slightly ticked with white.

Breast.—Black, with white tips; the two colours showing in equal proportions, avoiding a ticked effect on the one hand, and a blotchy effect on the other.

Wings.—Wing Bow: Same as back. Wing Bar: Black. Secondaries: Black and white. Flights: Ditto, but more white.

Tail.—Sickles: Black, with white tips. Coverts: Ditto. True Tail Feathers: Black and white. Thighs and Fluff: Black, with white tips.

In the Hen.—Head and Neck: Black, with white tips. Body, Breast, and Back.—Same as the breast of the cock; the effect to be uniform throughout the bird.

Wings.—As body, with flights as in cock.

Tail.—As in cock.

Thighs and Fluff.—As in cock.

VALUE OF POINTS.

Head	10
Colour	35
Condition	15
Legs and feet	10
Size and type	30
	100

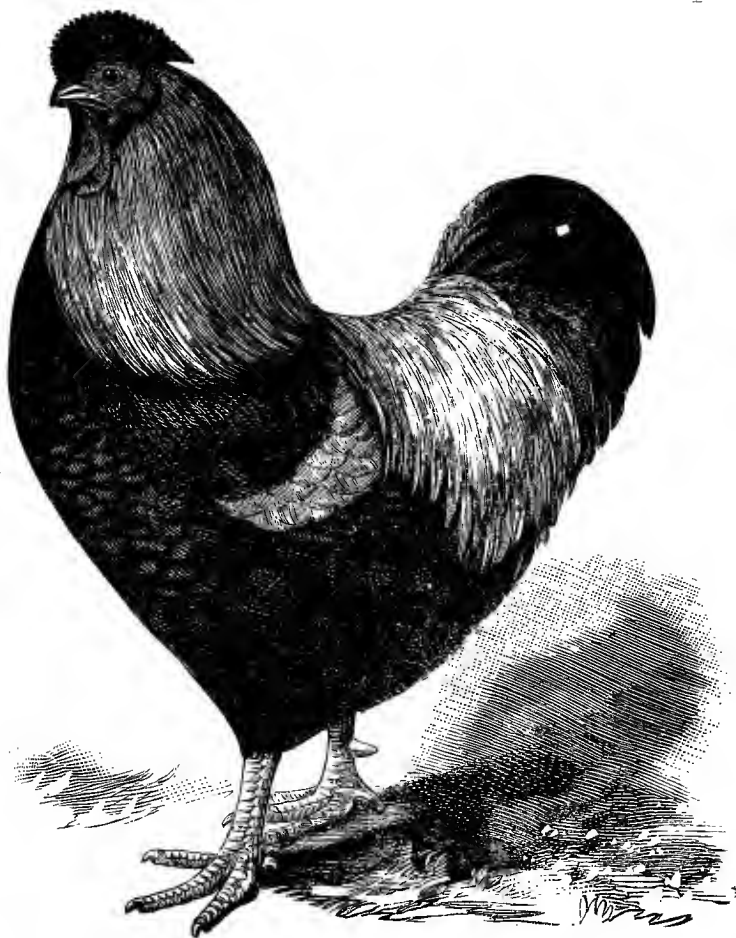
The above three standards are those published by the Variety Orpington Club, which further holds that it considers it is useless to tabulate defects, as defects proper are dealt with in "Value of Points for Judging," whereas serious defects, for which a bird should be passed, would render such bird not a true Orpington.

WYANDOTTES.

Early in the eighties the first Wyandottes were imported in to England from the United States, where they were "made," and these, as poultry-keepers of that period will remember were the Silver-Laced variety, which were the original Wyandottes, just as the Black Orpingtons were the first variety of, and the original, Orpingtons.

Since then many varieties of the Wyandottes have appeared, but the Silver-Laced variety holds its own as one of the prettiest of fowls.

Since the Silver Wyandottes were imported into England,



PARTRIDGE WYANDOTTE COCKEREL.



a great deal of money has been circulated by the sale of these birds—as a perfect bird requires much knowledge on the part of the breeder to produce.

The first specimens of the Silver Wyandottes were not much like the birds of the present day, just as the original Orpingtons were of altogether different type to the birds which are of club standard now

One of the chief points in which the birds differed was the shape of the comb—which then had distinct Hamburg tendencies—but those who took them up combined to breed the now recognised comb with the downward curve, familiar to all poultry lovers.

It is fairly well established that the Silver Wyandottes were introduced about the year 1880 in America, and so had six years' start over the Black Orpingtons. The Silver Wyandottes were "made" by judicious crossings of Silver Spangled Hamburgs and Light Brahmas, and it is interesting to note that one of the characteristics of the Brahmas has been transmitted in a very marked manner to all the progeny of these various matings, as the yellow skin is found in all the birds, and this from the American point of view is one of the birds' particular features.

It is easy to see which was the stronger fowl used in its production by the results obtained, as the identity of the Brahma is so strong in this direction.

We have room amongst our poultry-keeping public for as many varieties of any breed which are distinct and possess good qualities as well as beauty of form and colour, to recommend them.

There is nothing conservative about the up-to-date poultry.

keeper, who is quite prepared to keep as many varieties as he has room for, provided that he can see there is money to be made by so doing.

The breeding of high-class Laced Wyandottes is work for fanciers rather than for poultry-keepers, as it requires much experience in their mating to produce birds of the highest standard of excellence.

There are, however, many flocks of birds kept for egg production, and these give a good deal of pleasure to their owners, as they are very pretty fowls, as well as being capital layers.

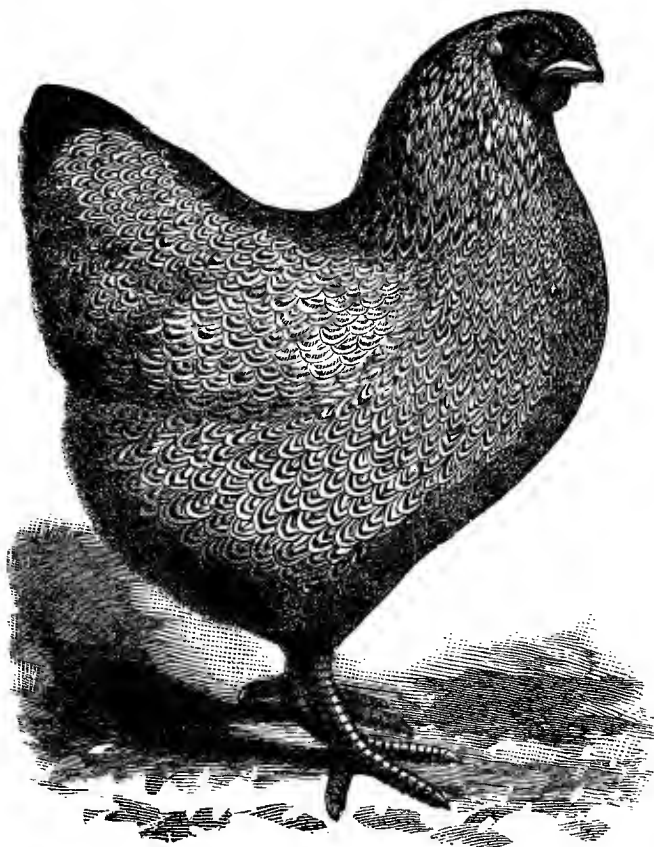
Following on the introduction of Silver-Laced Wyandottes came the Golden variety, the plumage of which is marked exactly the same as in the Silver, but the ground colour is of bright golden-brown instead of being silvery whiteness, and this, in contrast to the black lacing, is very effective.

The general characteristics of all varieties of the Wyandottes are the same, the broad short head being well defined.

The rose comb is close fitting to the head, the spike or leader curving down at the back. The shape of the body is full and deep but very "cobby," and they have short strong legs.

All varieties have yellow legs, but in the Partridge variety there is a great tendency to willow legs, just as there is in Black Leghorns, for while it is a comparatively easy matter to get a good yellow leg on all the other varieties of the Wyandottes and Leghorns, it is not in the case of the Partridge variety of the one and the Black variety of the other.

There have been two other varieties introduced, and both are of singular beauty, but will not become universally popu-



PARTRIDGE WYANDOTTE PULLET.

lar on account of the difficulty of getting the colours distinct, it having been found to take a considerable time to get two distinct colours.

The Buff-Laced have a ground colour of golden-buff, laced round with white, and the Violettes have the same ground colour laced with blue of an Andalusian tint.

The White Wyandottes are deservedly one of the most popular of this breed, and on account of their being so easy to breed true to colour, and their excellent laying qualities, they are likely to continue to be one of the most-sought-after breeds for egg production.

Buff Wyandottes have had a good innings, but their popularity is on the wane now, as those large breeders who go in for producing fowls to pay well did not find that the prices obtained for the best birds bred made it worth their while to breed them.

All poultry-breeders who go in for the production of good-class fowls of any breed, aim at producing the "ideal" bird, but it makes it more interesting when that ideal is reached, for the best birds to be worth a good sum.

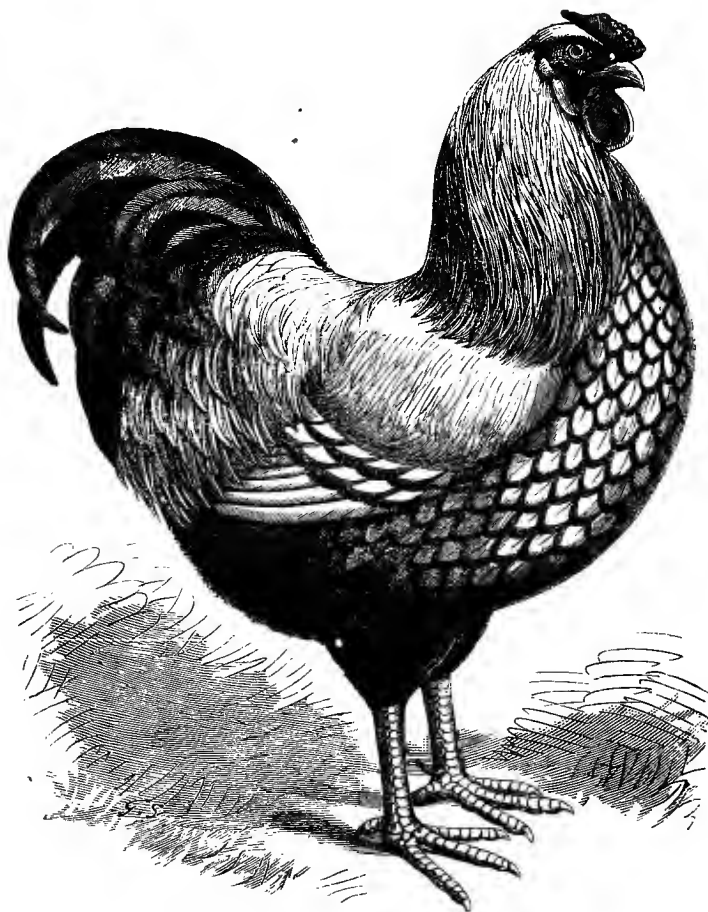
The first importation of Partridge Wyandottes to England was made about 1896, and the rapid strides made by this variety since then have been phenomenal. They are particularly beautiful birds, and even those which are not properly marked are very distinctive in their appearance.

They are exactly the same as Partridge Cochins in their colouring, and in the old days there were many who were very fond of those fowls, and were only prevented from keeping them on account of their heavily-feathered legs, and the room required to do them well.

These now go in for Partridge Wyandottes, which are specially well suited for confinement, as they do not show the dirt and always look handsome, no matter under what conditions they are kept.

There are those who keep a few fowls for laying purposes and as a hobby, and they generally like to have birds of the kind they take a fancy to, and amongst this class of poultry-keepers there are many who have taken up the Partridge Wyandottes. Then there are those who go in for good-class birds to breed a few for sale at good prices, and to exhibit at small shows, as well as those who are true fanciers, and who do not spare any expense to get the best that are obtainable, so that they can compete at the large shows and take their share of the chances of selling birds at high prices.

During the last year or two quite a number of good Partridge Wyandottes have changed hands at high prices. Birds change hands at from fifteen guineas to thirty pounds, so that it will be seen that it pays to get good birds of a breed for which there is a demand. Several successful poultry-keepers and exhibitors have obtained their birds, which have been a source of profit to them, by purchasing a sitting of good eggs from a reliable breeder. This is undoubtedly the cheapest way to procure good stock, as breeders can afford to sell eggs from birds worth many pounds each for a reasonable price, and in this way those who wish to purchase good birds, but are not prepared to expend the money necessary to secure really typical specimens, can secure very good birds for the expenditure of a little money, and they have the pleasure of seeing their young birds grow and develop into the fowls they have been looking forward to possessing.



SILVER WYANDOTTE COCKEREL.

The Partridge Wyandottes have come to stay, and we consider they well deserve their popularity, as they combine with a very handsome appearance such excellent laying qualities.

The White and Partridge varieties produce larger eggs than any of the other Wyandottes, the complaint having often been made that the drawback of Wyandottes was the smaller size of the eggs produced by them as compared with the size of the birds, but in these two popular varieties this is not as noticeable as in the others.

The Wyandottes are the least broody of all the brown-egg-laying breeds, and they have longer periods between wanting to sit, while some of them do not come broody at all.

Their eggs are not so large as those of several other breeds, but they lay well in the winter months, when an egg, whether large or small, commands a good price. Eggs which have white shells always look smaller than they really are, while, on the other hand, brown-shelled and tinted eggs look larger, so that Wyandottes are classed as profitable egg producers.

There are many fanciers and poultry-keepers who keep Silver and Golden Wyandottes and would not change their variety on any account, but, as the great army of poultry-keepers is always on the increase, there are many who are looking out for breeds suitable for their requirements, and, as pure breeds are in great request, on account of their symmetry of form being pleasing to the eye, there is plenty of room for new varieties which combine beautiful appearance with useful qualities.

There are numbers of people who want to keep fowls in semi-confinement, and are not able to give them a free range on account of the limited space at their command. These

generally require birds to lay tinted eggs, and plenty of them.

The Partridge Wyandottes are well suited to these on account of the colour of their plumage, which, although beautiful in colouring, does not become soiled by the smoke and dirt frequently found under the conditions mentioned.

Wyandottes are active birds, and do not become so fat internally as fowls of heavier breeds generally do.

The Columbian Wyandottes are particularly pretty fowls for keeping in the country, their plumage being the same as that of light Brahmas combined with the characteristics of the Wyandottes. These birds will become popular amongst those who admire the colouring of this breed.

The Silver-Pencilled Wyandottes are of the same colour as Dark Brahmas, and we consider them strikingly handsome, the soft tints of grey in the pullets and their fine pencillings being very pleasing to the eye, while the cockerels are very beautiful birds.

We class the different varieties of Wyandottes in the following order as to their popularity: (1) Partridge, (2) Whites, (3) Silvers, (4) Golds, (5) Silver-Pencilled, (6) Columbians, (7) Buffs. They are all good layers and very hardy fowls, and are plump birds for home consumption, but do not pay as well as the white-fleshed breeds for the table.

It is an excellent plan for those who have good cross-bred pullets, and who wish to improve the laying qualities of their progeny, to purchase Wyandotte cockerels to mate with them.

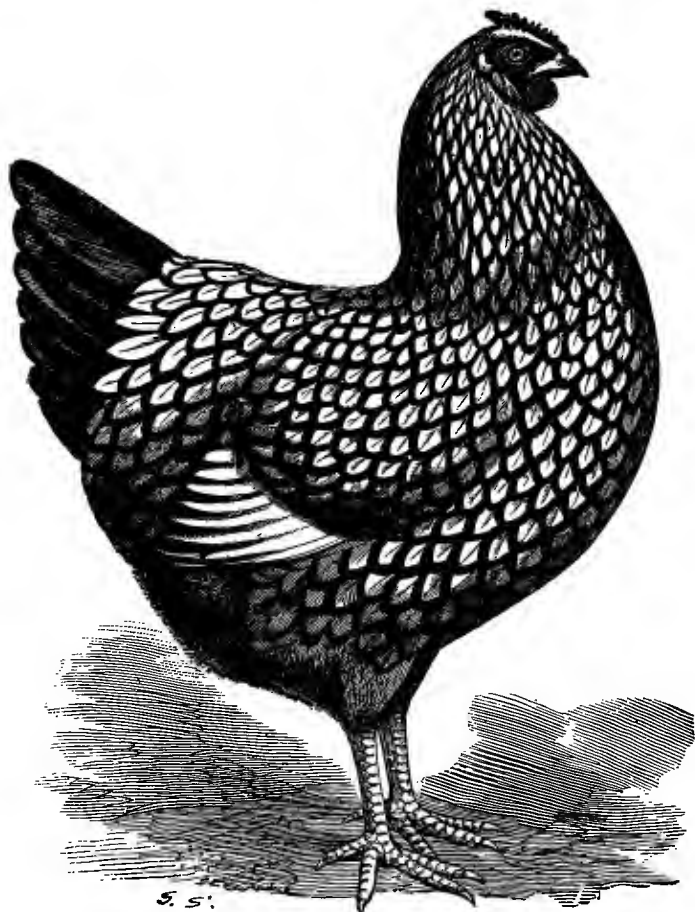
For the country runs, White Wyandotte cockerels should be used, and for town runs Partridge and Golden cockerels form a good investment.



TRIO OF WHITE WYANDOTTES.

Bred by William Cook and Sons.

Winners of many prizes.



SILVER WYANDOTTE PULLEN.

The following is the standard of the breed:—

GENERAL CHARACTERISTICS OF COCK.

Head and neck.—Head: Short and broad. Comb: Rose, firm and even on head; full of fine work; low and square at front, tapering towards the spike, which should follow the curve of the neck. Face: Smooth, and fine in texture. Ear-lobes and Wattles: Medium length, fine in texture. Neck: Medium length, well arched, with full hackle.

Body.—Breast: Full and round, keel bone straight. Back: Broad and short. Saddle: Full and broad, rising with concave sweep to tail. Wings: Medium size, nicely folded to the side.

Tail.—Well developed, spread at base; the true tail feathers carried rather upright; sickles of medium length.

Legs and Feet.—Thighs: Of medium length, well covered with soft and webless feathers. Fluff: Full and abundant. Shanks: Medium length, strong, but fine in bone. Toes: Four in number, straight and well spread.

General Shape and Carriage.—Graceful and well-balanced, resembling a Brahma.

Size and Weight.—Rather large. Matured cockerels about $6\frac{1}{2}$ lbs. for Buff-Laced, 7 lbs. other colours; adult cocks about $7\frac{1}{2}$ lbs. in Buff-Laced, $8\frac{1}{2}$ lbs. in other colours.

GENERAL CHARACTERISTICS OF HEN.

Head and Neck.—Head, Comb, Face, Ear-lobes and Wattles as in the cock, but the appendages smaller. Neck: Medium length, with short full hackle.

Body.—To correspond with that of the cock. Back: Short, and wide at shoulder.

Tail.—Well spread at base.

Legs and feet.—As in the cock.

General shape and carriage.—To correspond with the cock.

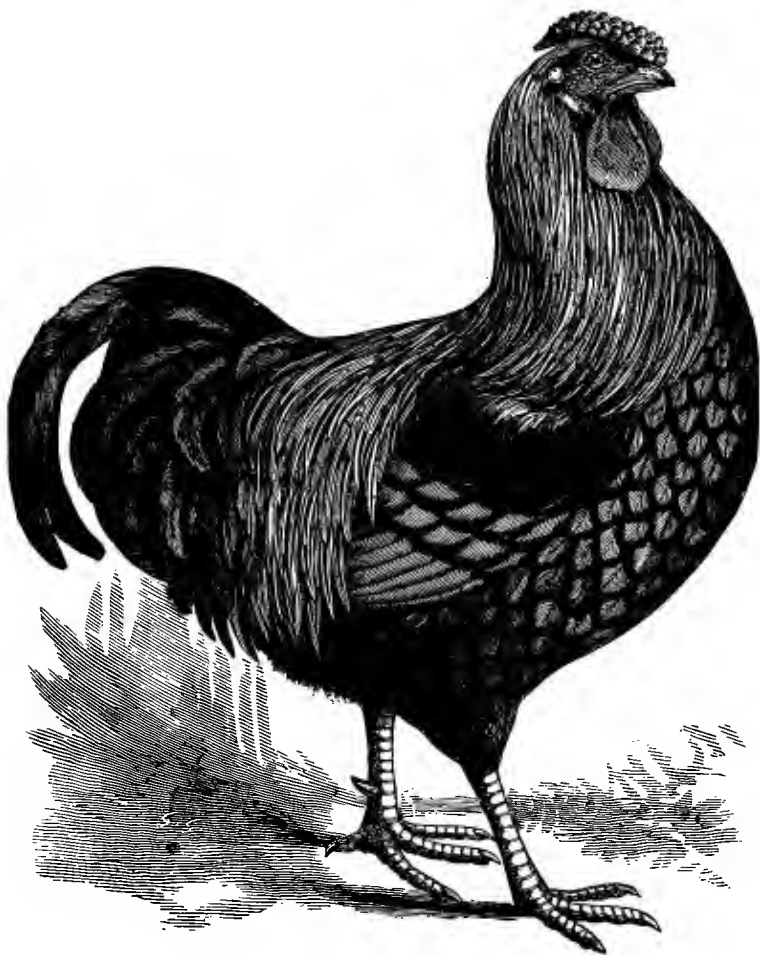
Size and Weight.—Pullets $4\frac{1}{2}$ lbs. in Buff-Laced, 6 lbs. in other colours; adult hens $6\frac{1}{2}$ lbs. in Buff-Laced, 7 lbs. in other colour.

COLOUR OF SILVER WYANDOTTES.

In both Sexes.—Beak: Horn colour, shading into or tipped with yellow. Eye: Bright bay. Comb, Face, Ear-lobes and Wattles: Bright red. Shanks and Feet: Bright yellow.

In the Cock.—Head: Silvery white. Neck: Silvery white, with clear black stripe through centre of each feather, free from ticks. Saddle: Hackles to match the neck. Back: Silvery white, free from yellow or straw colour. Shoulder Tip: White, laced with black. Wing Bow: Silvery white. Wing Coverts: Evenly laced, forming (at least) two well-defined bars. Secondaries: Black on inner and wide white stripe on outer web, the edge laced with black. Primaries or Flights: Black on inner web, and broadly-laced white on outer edge. Breast and Under-parts: The web white, with well-defined jet black lacing, free from double or white outer lacing, the lacing regular from throat to back of thighs, showing green lustre. Under-colour: Dark slate. Tail: True tail feathers, sickles, and coverts black, showing green lustre. Thighs and Fluff: Black or dark slate, powdered with dark grey, with clear lacing round hocks and outer side of thighs.

In the Hen.—Head: Silvery white. Neck: Silvery white, with clear black stripe through centre of each feather, free from ticks. Breast and back: Under colour dark slate;



GOLDEN WYANDOTTE COCK. ·

web white, with regular, well-defined jet-black lacing, free from double or outer lacing, and showing green lustre. Wings: Same as back on the broad portion. Secondaries and Primaries: As in the cock. Tail: Black, showing green lustre; the coverts black with a white centre to each feather. Thighs and Fluff: Black or dark slate, powdered with dark grey.

N.B.—Regularity of lacing and quality of colour in all cases to count above any particular breadth of lacing.

COLOUR OF GOLDEN WYANDOTTES.

In both Sexes.—Beak: Horn colour, shading into or tipped with yellow. Eye: Bright bay. Comb, Face, Ear-lobes, and Wattles: Bright red. Shanks and Feet: Bright yellow.

In the Cock.—Head: Rich golden bay. Neck Hackle: Rich golden bay with distinct black stripe down the centre of each feather, free from ticks, black outer edging, or black tips. Saddle Hackles: To match the neck. Back: Rich bay, free from black, or from deep maroon. Breast and Wings: Same as Silvers, substituting rich golden bay for white in ground colour. Thighs and Fluff: Black or dark slate, slightly powdered with gold, with clear lacing round hocks and outer side of thighs.

N.B.—Brightness and uniformity of colour to be considered of more value than any particular shade.

In the Hen.—Head: Rich golden bay. Neck Hackle: Rich golden bay, with distinct black stripe down the centre of each feather, free from ticks, black outer edging or black tips. Breast, Back, Wings, and Tail: As in Silvers, substituting rich golden bay for white as the ground colour. Thighs and Fluff: Black or dark slate, slightly powdered with gold.

N.B.—Brightness and equality of ground colour and regularity of lacing throughout to be of first importance.

COLOUR OF WHITE WYANDOTTES.

In both Sexes.—Beak: Bright yellow. Eye: Bright bay. Comb, Face, Ear-lobes, and Wattles: Bright red. Plumage: Pure white throughout; straw colour to be avoided. Legs and Feet: Bright yellow.

COLOUR OF PARTRIDGE WYANDOTTES.

In both Sexes.—Beak: Horn colour, shading into or tipped with yellow. Eye: Bright bay. Comb, Face, Ear-lobes, and Wattles: Bright red. Legs and Feet: Bright yellow; toenails horn colour.

In the Cock.—Head: Rich orange. Neck: Orange or golden red, with paler shade at back, each feather having a glossy black stripe down centre. Back: Rich dark red, free from maroon or purple shade. Saddle: As in the neck hackle. Wings: Shoulder rich red, as in the back. Wing Bar: Solid black. Secondaries: Rich bay on outer web, and black on inner web and end of feather, the rich bay alone showing when the wing is closed. Breast: Black, free from ticks. Tail (including sickles and tail coverts): Glossy metallic black.

In the Hen.—Head: Rich orange. Neck: Golden yellow, striped with black. Breast, Back, and Wings: A light brown ground colour, free from red or yellow tinge, every feather distinctly and plentifully pencilled with a darker shade. Pencilling uniform throughout, to follow the form of the feather. A brick or yellow ground colour is objectionable. Fluff: Brown (free from yellow or red), slightly pencilled (the more

pencilled the better), Tail: True tail feathers black, shading to brown at top, which should be well pencilled.

PLYMOUTH ROCKS.

This is the other American breed, which, being popularised in England for years, resulted in the sending-out of this country large sums of money to the breeders in the United States to secure good specimens for founding strains on this side, to meet the demand which arose for really good birds of this breed which possessed unique colouring.

Poultry-keepers of twenty-five years ago remember the excitement produced by the importation of the Barred Rocks to England and the admiration they aroused. The two shades of colouring were admired by all, and the demand for eggs and young birds from those who had invested in the imported birds was very large.

High prices were frequently given by English breeders to the American producers, and those who were sufficiently enterprising to spend their money thus, were well repaid by the demand which followed their introduction. The popularity of the birds did not depend on the appearance of the birds alone, but when they had a trial it was found that they had hardiness and laying qualities to recommend them, and had they had white skins instead of yellow they would undoubtedly have become as popular as the breed which followed them—viz., the Orpington—but on account of their yellow skins, to which English people invariably object, could not be accepted as good table fowls.

For home consumption they give satisfaction, but for sale for market purposes they do not realise as high prices as the birds of equal size and with white skins.

As poultry-keepers have learnt the importance of utilising their food to the best advantage, they go in for the white-skinned breeds, finding they can sell their young birds at better prices than those which have yellow skins.

Plymouth Rocks are largely kept, and particularly on heavy soil, where it is absolutely necessary that hardy fowls be bred for egg production as well as for fowls for killing.

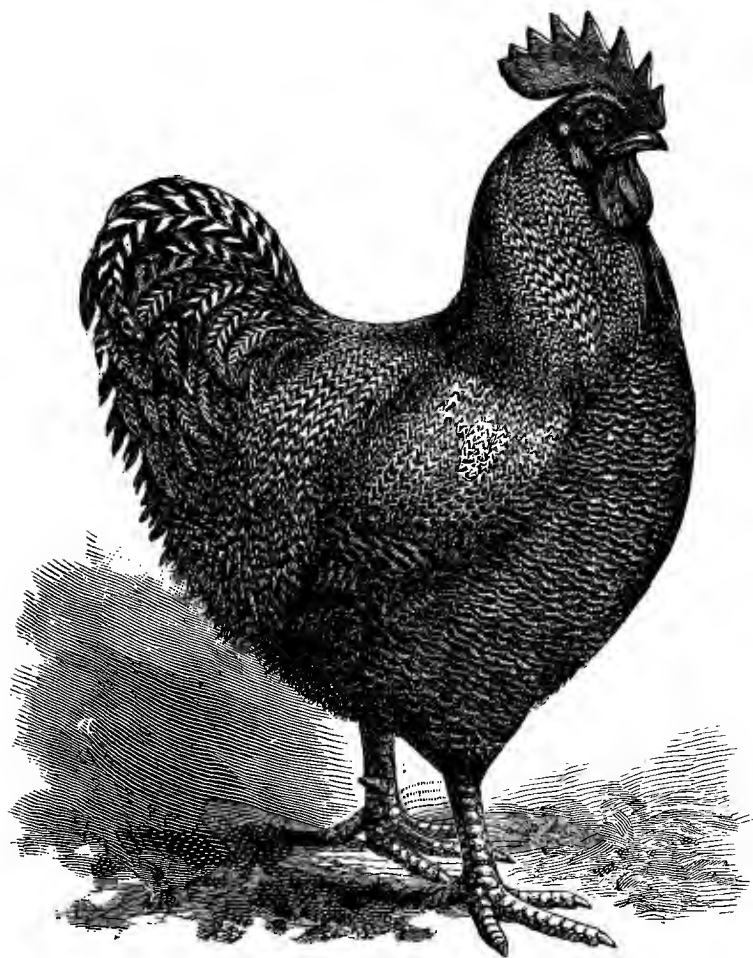
They are not increasing in popularity either for exhibition or utility purposes to the same extent as Wyandottes and Orpingtons, the former being kept principally for egg production and the latter for egg production and table birds.

The competition in Plymouth Rocks is very keen, and particularly in the North of England, where there is more rivalry than in the South, and the standard of perfection reached by the best birds is very high. Those with a love for form and colouring cannot help admiring the beautiful barrings of the Plymouth Rocks.

At the present day they are much darker in shade than formerly, and fortunately the large percentage of very light coloured cockerels is decreasing.

In breeding Rocks these were a great drawback, as they were not nearly as saleable for stock purposes as the medium coloured and darker birds; and, although they were sold for crossing in farmyards and small runs, they were not so pleasing to the eye as the darker birds.

Fortunately for the breed it has been realised that it is not advisable to resort to the mating of light-barréd cockerels with very dark and even black hens and pullets which was in vogue ten or twelve years ago, on account of the large



PLYMOUTH ROCK COCK.

number of badly-coloured progeny as the result of this mating. It has been found that the mating of extreme shades does not answer in any breed, and especially in Plymouth Rocks.

The pullets, as a rule, begin to lay about 7 or $7\frac{1}{2}$ months old. When bred from big prize stock they are frequently older than this when they lay.

The chickens are hardy and grow fast, but the cockerels do not feather very quickly, and those who have never hatched Plymouth Rocks must remember that they are likely to get birds of two or three shades, some light and some dark.

The typical Barred Rock has an upstanding appearance, and should be evenly barred. Beak yellow, and very strong; eyes bright, clear, and prominent, light brown or hazel; comb, single, well serrated, medium size, straight, and well set on head, free from side spikes; red face and ear-lobes. The body of the bird is deep and well formed, and the legs, which are bright yellow, set well apart, with four toes on each foot.

The hen should have a straight comb, standing well up, single, and well serrated; red face and ear-lobes same as cock, only, of course, smaller in every way; neck hackles, full; body large, deep, and square; legs much shorter than those of the cock, which gives the hen the appearance of a very deep-bodied bird.

In addition to the Barred Rocks—which is the original variety—there are Whites and Buffs, the former being by far the more popular of the two. They are excellent layers, easily bred true to colour, and well suited for exposed country runs

where white-fleshed fowls are not required for sale for the table, but the cockerels just killed off for home consumption.

LANGSHANS.

The Langshan has been the subject of keen controversy. One quality has always been prominent, and that is the popularity of their beautiful brown eggs—the deepest brown or chocolate egg of any laid by the many kinds of fowls reared in England.

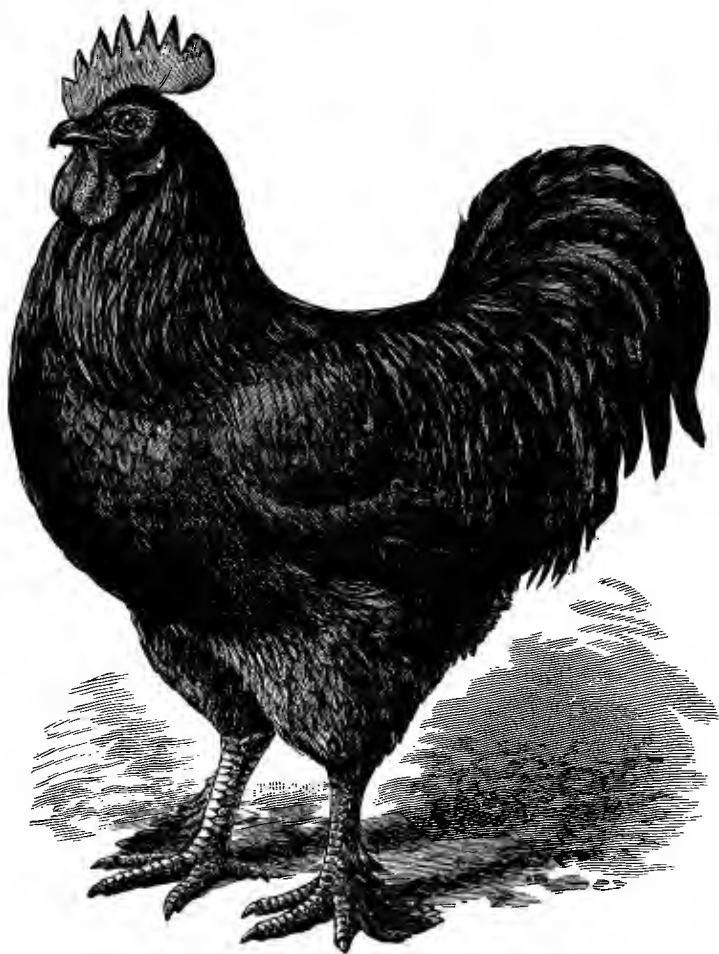
These eggs are not large, but those who like the deep brown shade are pleased with them. This breed do not, however, lay quite such deep brown eggs as they did eight years ago, because in many instances other blood has been introduced to get them longer on the leg. The type of the Langshan has been altered entirely during the last few years.

They were at one time a short, thick bird, but now they are bred with a long tapering body, but those who understand pretty well know what we mean by describing them as without cushion—that is, the back is straight, with the cushion feathers well up round the tail, which has the effect of making the tail look rather short, but they are not now the fine thick-set birds they once were.

We always consider the Langshan as a very useful variety. The cockerels grow to a large size and mature very quickly.

They are not a variety we should recommend for breeding Spring chickens, but for table birds, say at six or eight months old, then they are like turkeys for size, and their flesh is very white.

The Langshans and Black Orpingtons used to look very much alike years ago, but they are easily distinguished now,



LANGSHAN COCK (CROAD TYPE).

even by the most uninformed—the Black Orpington being short and thick, while the Langshan is lanky.

There are many black varieties, but the Langshans stand pretty much alone, as there is no variety like them, and many admirers exist who take them up with enthusiasm.

Langshan chickens are very hardy, and in many cases the pullets mature much quicker than the cockerels, so much so that they often lay at five months old.

An exhibition Langshan is a very long-legged fowl, but those that do not come so good as regards show points are very valuable for crossing purposes.

We very much prefer the Langshan not so long on the leg for crossing, as they improve the laying and table qualities in all mongrel or cross fowls, and they also sell well, and people must study this in these go-ahead days.

We consider the Langshan pullets handsomer than the cockerels, as they have a lovely green sheen upon them when well bred. We have a great fancy for black fowls, as the sun does not affect their plumage so much, and they stand town and suburban life and do not show the dirt.

DARK BRAHMAS.

The Dark Brahma is one of the Asiatic species, and a few years ago was highly esteemed and considered to be almost indispensable for winter eggs and crossing with other birds.

The birds are certainly very hardy, and cold weather affects them but little, but they are being firmly ousted by Orpingtons and Wyandottes, and have never been used very largely in their pure state for practical purposes, as, for instance, on farms. When farmers had a few pure ones, it was rarely

kept in that state long, as they found that when crossed with other varieties the chickens matured so much more quickly, and laid so many more eggs during the year, that this was the most profitable course.

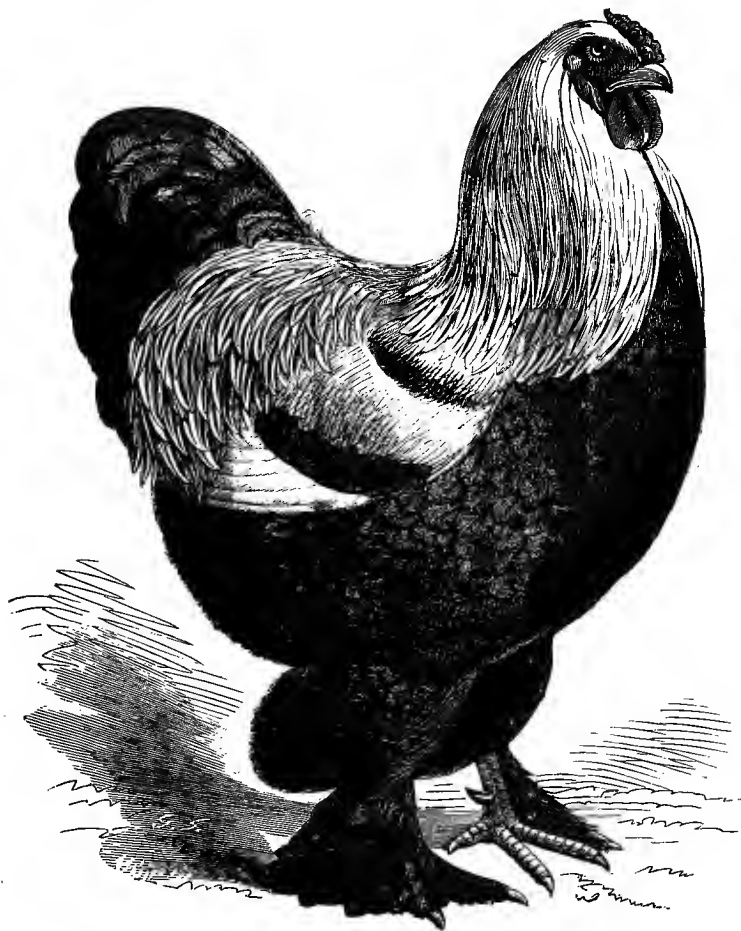
Occasionally we see a few Brahma hens running in various farmyards, as past experience has taught farmers and others that by crossing Brahmas they have a useful fowl.

A few years ago, a cross with Brahma cock and Dorking hens, or vice versa, was more greatly in favour than any other cross, even for London markets, and not only that, but 20 years ago there would be more first-cross Brahma-Dorkings than every other cross in England. They were hardy, grew fast, and made immense birds, but they have been superseded.

Sussex fatteners are always pleased to get half-bred Brahmas in their fattening coops, as they stand cramming well, and get weight, many much better than other varieties, but no doubt the feather on their legs is one thing which has prevented them from being used for crossing purposes.

Brahmas are distinct from all other breeds, with the exception of Cochins, and there are only two varieties, viz., the Dark and the Light; and although the Light Brahma cock and hen are exactly alike, excepting the neck hackles and of course the saddle and tail, which are fuller, some people when they look at the Dark Brahmas, especially anyone who does not understand the variety, can scarcely believe the cock is of the same breed as the hen, and yet they breed fairly true.

Brahma chickens are a long time coming to maturity, as they feather slowly, but they are not delicate, and can be



DARK BRAHMA COCK.

raised in cold or wet weather. For the first few weeks they do not make much progress, but after they are seven or eight weeks old, they appear to make quicker development.

They are not good summer layers, being inclined to be broody throughout the hot weather, and unless they are treated for broodiness immediately they show signs of it, will remain broody for a long period. They require management in the hot weather in this respect.

LIGHT BRAHMAS.

These birds are entirely different in colouring to the Dark variety, although possessing the same general characteristics, triple (or pea) combs, heavily feathered legs, and solid build. The head should be rather wide across the skull; eyes, a little sunken, but exceedingly bright, and a very good-shaped beak. Neck hackles, black and white, clear and distinct, coming right up to the head and meeting underneath, giving them the appearance of having a cuff round the neck.

The body feathers should be perfectly white, but in a few specimens these may be flecked with black. Tail carried fairly high, black edged with white. The underneath wing flights are black, but these are covered over by black and white ones, which cover them when the wing is tucked up in a natural position.

They have great deal of long fluff upon the thighs, meeting the leg-feathering, and this latter should be very long, black and white in good specimens, reaching down to the middle toe. Four toes on each foot, and pale yellow legs. The birds look very massive, as their feathers are so long.

The hens are the same colour as the cocks, with the excep-

tion of not having any black at all on the saddle, and, of course, the tails are much shorter. The head, comb, and ear-lobes being just the same, and the purer white they are the more valuable the birds

BUFF COCHINS.

This variety may be termed one of the old stock ones, as it has been in England over 70 years.

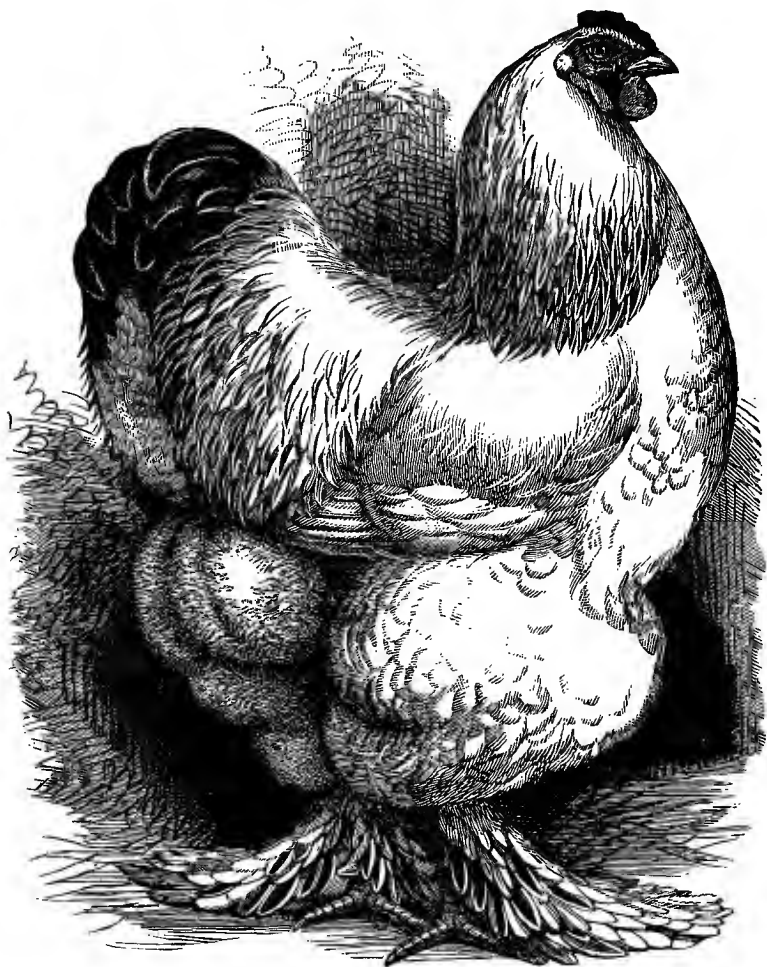
We may point out that when first introduced into England they were considered to be quite a novelty, although present-day excellencies are of the greatest interest. The Cochin was imported from China.

When the birds were first introduced into England there was a rage for them. There were, doubtless, many reasons for this. They produced a brown egg, and a greater part of them were produced in the winter—that is, when they were hatched early enough—and the buff colour was entirely unknown in England up to that time.

The brown eggs were a decided novelty to English people, and the buff or cinnamon colour of the fowl was more so.

Thus the Buff Cochin spread through the United Kingdom, and vestiges of the influence of these birds were left for many years in the buff bodies, black neck, and cockerels with five or six colours in them, and with the strain of blood showing in the red hackles and saddles, which was the remnant of the old Buff Cochin.

After a time very few people cared to breed them pure, as after rearing the chickens hatched from a purchased sitting of eggs the majority were found to be cockerels, and these were turned down with the ordinary farmyard fowls, and they



LIGHT BRAHMA COCK.

were sold for that purpose to go into other yards, and it did not take long for them to discover that the half-bred Cochin pullets laid at a very much earlier age than the pure birds, and the offspring was ready for the table weeks earlier.

This intelligence naturally spread to those who knew them, and gained them increased popularity, and in 45 cases out of 50 people crossed them instead of keeping them pure, on account of their marvellous egg production.

The remaining five kept their birds quite pure, and thanks are due to those poultry people who did so, because had everybody crossed, no pure birds would have been left.

Unfortunately, at that time they did what, we are sorry to record, a good many people do now, that is, they used cross-bred cockerels, and transferred these from one yard to another, with a few red feathers in the neck, what might be called mongrelising them.

As time has advanced, poultry-keepers have kept pace with it, and they find it is most important to use fresh male birds each year, and these pure.

To the Buff Cochin we owe the beautiful colouring of the Buff Orpingtons, and always regard the older breed with affection, remembering how much the colour which it transmitted to our favourite and own special breed has been admired, and the popularity it has gained.

DARK AND SILVER-GREY DORKINGS.

It was thought a few years ago when the Orpingtons, Wyandottes, and Plymouth Rocks were introduced into England, and became popular so quickly, that Dorkings would not be required, and would become obsolete.

This, however, is not the case, as they still hold their own, and there is a very great demand for them, although the White and Cuckoo varieties are almost defunct now, and are but seldom seen.

Anything the public do not take to soon goes down in egg production particularly, because there are not sufficient people breeding them to enable them to get fresh blood: therefore the breeds become in-bred, and the egg organs weakened to a very great extent.

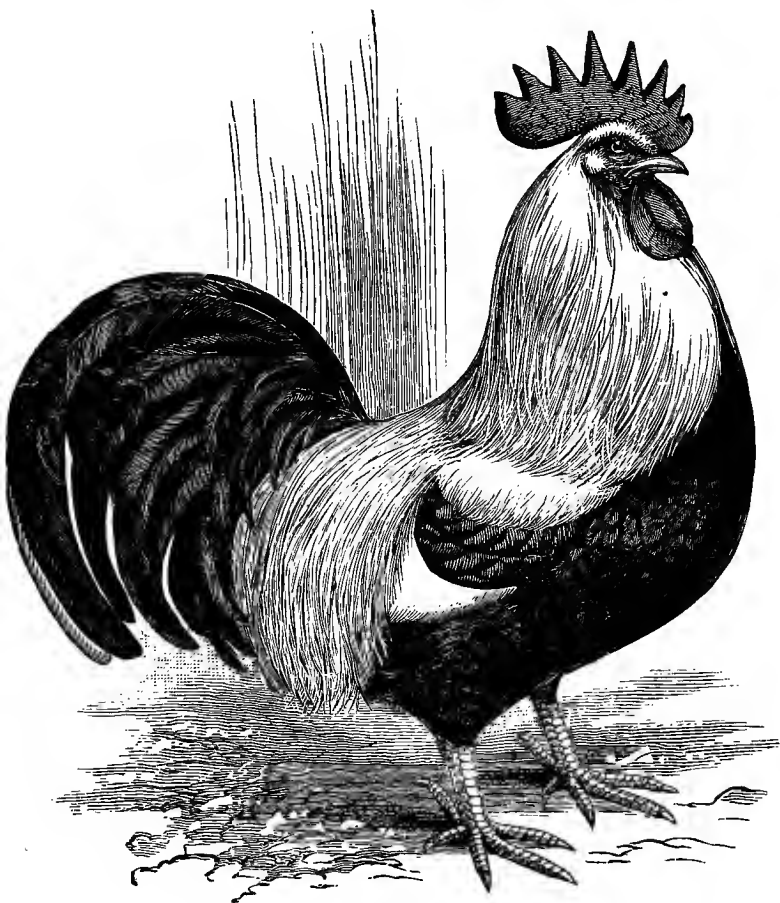
This follows in all varieties which are not popular. Then there was the Brown Dorking, which was a nice bird, but we found it so difficult to get fresh blood that we gave them up. It is the Silver and Coloured which take a foremost position as English varieties. Dorkings, as a rule, are not considered good layers, and yet when they are bred for laying—that is, when a selected pen of layers are put together—they cannot be called bad layers, but as table birds they stand highest upon the list among our aristocracy.

They have a long, deep breast, and are of fine flavour, and the meat is of very fine texture, and we are convinced the Dorking fowl will never die out as long as England stands.

They are used for crossing for table birds very largely. We always breed large numbers of both Silver and Coloured, because we find there is a great demand for them.

Some enquire if Dorking chickens are delicate, but this is not so if the birds are mated rightly, with fresh blood each year, and there are a few varieties that want more room when rearing, and they should not mix with other breeds which may be hardier than themselves.

When Dorking chickens are reared away from other



SILVER-GREY DORKING COCK.

chickens, and not put too thickly on the ground, and allowed plenty of exercise, they keep healthy, and grow fairly fast. They are wonderful birds to feather quickly, and there are few birds that get their tail feathers quicker than the Dorkings, and they can be reared very early in the season on this account.

They are rather more inclined to have cramp in their feet than some varieties, especially the first six weeks or two months. This may be averted by having peat moss or something soft on the bottom of the coop.

Hard bare boards and cement floors are very bad for Dorking chickens, as the fifth toe rather weakens their feet; though this latter point is a distinguishing feature of the Dorking.

INDIAN GAME.

This is one of the popular utility breeds for table purposes. There is always a demand for the cockerels for crossing to produce table fowls. Those who have not had much experience in poultry-keeping invariably know of the popularity of the Indian Game-Dorking cross as table birds, as they have been bred for many years for the best tables in the land.

When considering the ordinary strains of Indian Games and Dorkings one cannot help admitting that they are really poor layers, and that their only recommendation when considered as utility birds is found in their good table qualities, but no matter how fine the quality of the birds may be on the table; it must be remembered that it is impossible to produce them sufficiently early in the season to get them the size it is essential they should be by the time when they fetch the

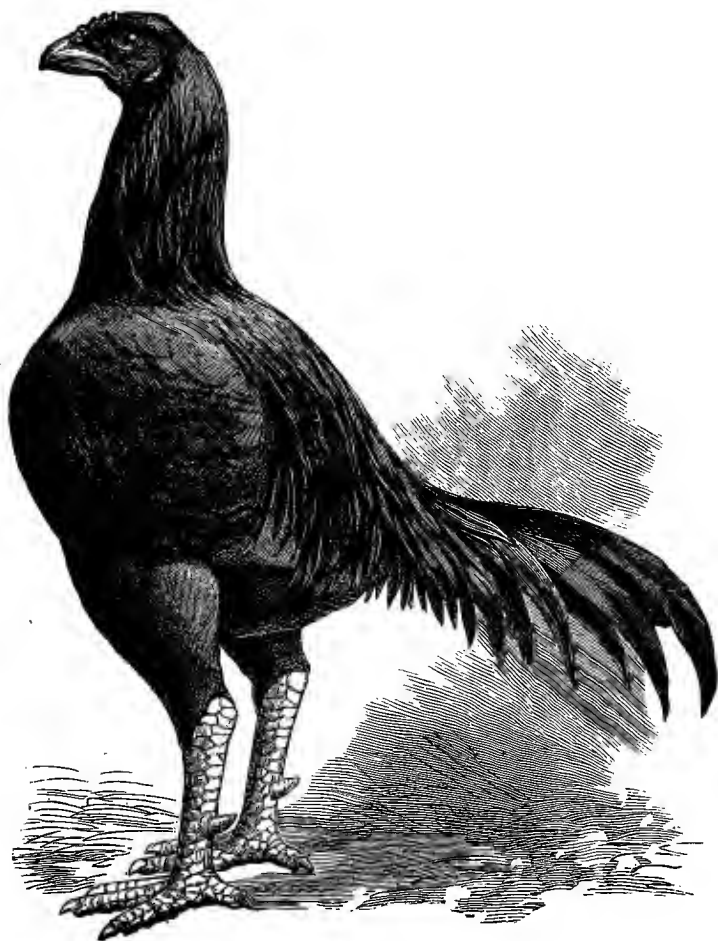
best prices, unless the birds are hatched out early, and in order that this may be done, eggs must be forthcoming, and as it is not natural for these birds (Indian Game and Dorkings) to lay in the winter months, selection has had to be made, and the best layers bred from, so that after years of careful mating and selection, strains have been established which produce equally as fine birds as the older types of Games and Dorkings, and yet lay in the winter months.

For many years we have been breeding our birds of these two breeds up to the standard of what we considered they should be—viz., large birds and good layers, and we are glad to say we have succeeded in establishing laying strains in Indian Game and Silver-Grey Dorkings which will compare very favourably with Plymouth Rocks and Langshans as layers and yet retain all the characteristics of the breed.

Our March-hatched Silver-Grey Dorking pullets are usually in full lay by November, and our March-hatched Indian Game pullets commence to lay in December.

We have heard it stated many times by those who professed to understand poultry-keeping in all its branches, that the study of the laying qualities in fowls was entirely a separate matter to table poultry—have seen many poultry-keepers who have mated in November and December fine pens of Dorking hens with good Indian Game cocks, waiting vainly for eggs in February and March, knowing only too well, that valuable time was being lost while the birds were not laying—and this year after year.

We have had to differ from those who held this opinion, as we have always believed, and distinctly stated to all who have sought our advice on the subject, that in order



INDIAN GAME COCK.

to make poultry-keeping a success, the laying qualities of the birds must be studied, and those who have gone in for the old breeds, but obtained eggs from breeders who have studied the laying qualities of their birds, have been much more successful than those who have bought birds or eggs without any enquiry as to the laying record of the strains, as when they have required to hatch young birds they have not been prevented by a lack of eggs at the time they were wanted.

We have heard it said that those birds which came from "laying strains" were not good representative specimens of their breeds, but this is not really the case, as we breed fowls which are true to type in every way, and well marked, also large, and yet good layers. Neither quality has been sacrificed to the other, but all have received consideration, and the stock birds have only taken their places in the breeding pens on their merits of layers, considered from their standard before points.

Unfortunately, a good many people do not understand how important it is to get good strains of the breeds they go in for. Because a bird is called a pure Leghorn and is a pure Leghorn, it does not always follow that she will be a good layer—although Leghorns are the finest laying breed it is possible to obtain.

When fowls are selected and bred for a certain purpose, those qualities which are most desired in the birds are looked for, and unless these are found in a marked degree they are rejected as stock birds, for it is no use one expecting to breed young fowls to produce 150 eggs in the year if they do not come up to the average of at least 120 or 125 eggs each themselves—because no matter from how good a laying

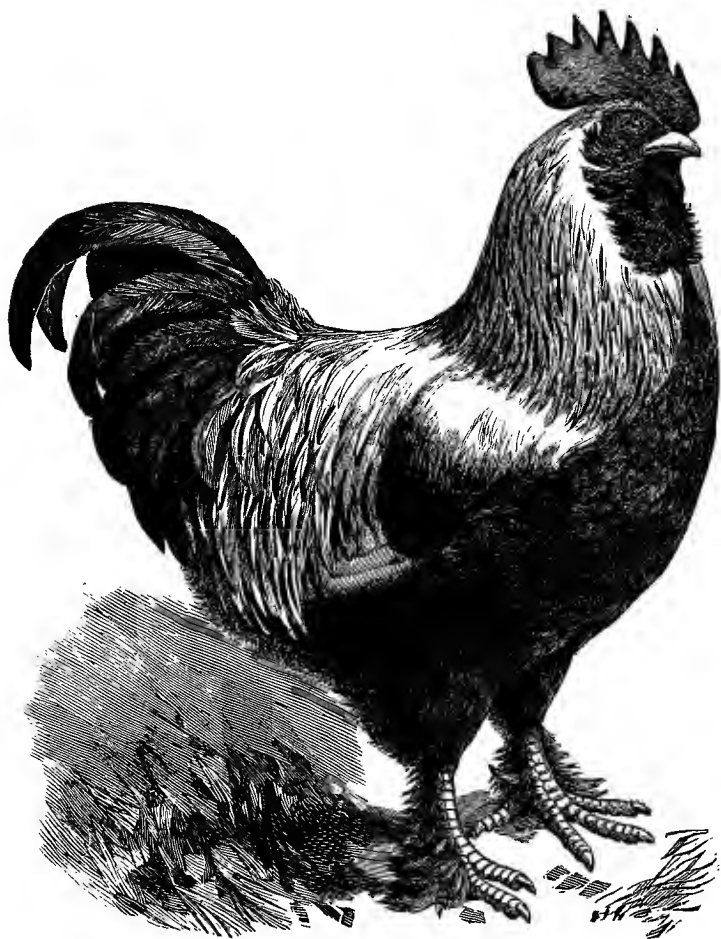
strain the male bird used may be, he will not make up the deficiency.

Those who want to be successful with any of the old breeds must take care to seek good laying strains, as it is really more important to do this with *old* breeds than with the newer ones, which have had a great deal of fresh blood used in their manufacture, and this invariably tends to increased activity of the egg organs.

For the production of very fine table birds, Indian Game cockerels are largely used, as the young birds are meaty and hardy. In place of Dorking hens, which have so long been popular as mates for these cockerels, Buff Orpingtons are substituted now, as eggs can be obtained from the Buff Orpington hens and pullets much earlier in the season than from the Dorkings, and the progeny are really very good table birds and excellent layers.

The Indian Game-Buff Orpington pullets are very pretty fowls, resembling the pure Indian Game in colour of plumage, but a few shades lighter. All chickens produced from Indian Game cockerels are very hardy—they seem to possess exceptional stamina and strength. The Indians are the best variety of Game fowls—for all-round purposes.

A very good feature of the Game is that they lay brown eggs. This makes all the difference to the prices gained for eggs sold, and they lay bigger eggs than any other Game we have. Then, again, some people consider Game chickens are delicate. This is not so; Indian Game chickens are not delicate if bred properly, but inbreeding is practised in some strains to so great an extent that the results of this cause the birds some people get to be delicate, not because the



FAVEROLLE COCK.

breed is so from constitutional causes, but because of the bad treatment the breeding birds have received.

Indian Game cocks are very active, and exceptionally good stock birds. One male bird in good condition will fertilise fifteen or more hens on a free range, and ten to twelve in confinement.

The hens are splendid sitters, and good mothers, and they will protect their chickens from cats, or anything that may attack them. If a cat attempts to come near their chickens they will knock it over immediately, and in several instances we have known them to kill a full-grown rat which has attacked their young. They are exceedingly fierce and spiteful if anything interferes with their little family, and will use their utmost strength to defend them from all comers.

There is one thing must be guarded against where Game hens are rearing chickens, and that is that no chickens of other broods go near the coop, as if these should wander near, the hen will be quite likely to kill them before they can get away again. They must be kept right away from other broods.

FAVEROLLES.

These fowls, which came to us from France, are very fair-layers, and particularly good table birds; but, doubtless due to the prejudice held by English people against feather-legged fowls—which present anything but a pleasing appearance on wet days, and in a dirty yard are an abomination—they have not made much progress. They lack symmetry in shape, having the long body of the Dorking allied to the leg-feathering of the Brahma, and the lack of crest which it

always appears should accompany the beard Faverolles have, go to combine a whole which is the reverse of satisfying to English poultry-keepers, whose tastes can be indulged by taking up the breeds which combine a graceful symmetrical appearance with good qualities. The Faverolle cocks are coloured similarly to Dark Brahmas, and the hens vary from pale to deep buff, with lighter shades.

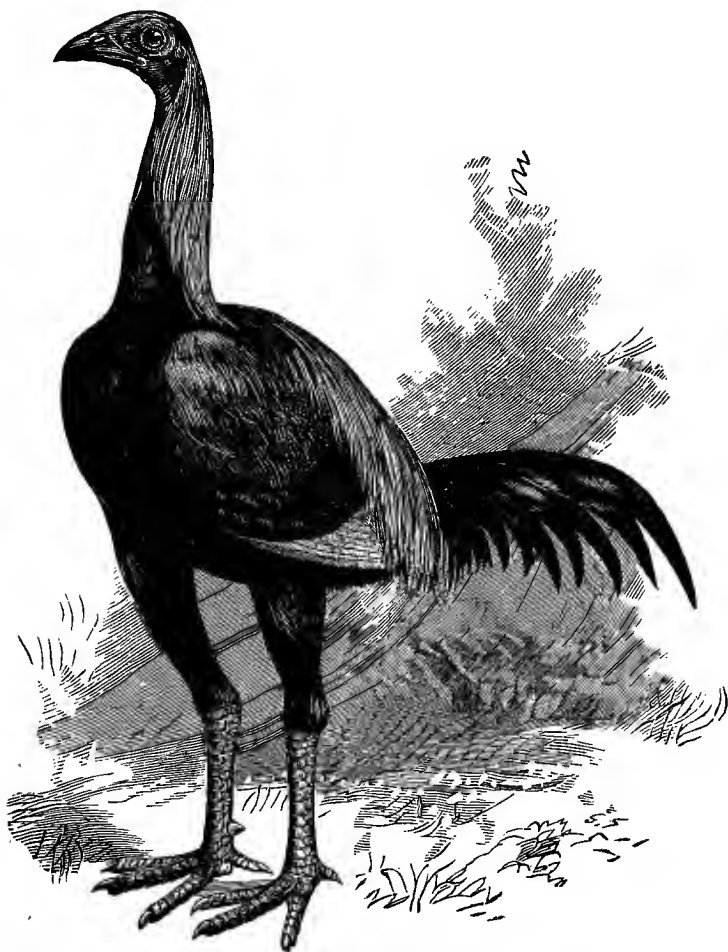
BLACK-BREASTED RED GAME.

There are so many Game varieties that it would not be possible to describe them all in this book, but the most common of all the varieties is the Black-Breasted Red, the cock of which should have a black breast and tail, while the lower part of the body should be black also. The hackle and saddle feathers are of a rich brown-red colour, the upper part of the wings is of a deep red, with black edging, the centre part being black and at the end a reddish-brown, something like the colour of the hackles. The hen's back and wings should be brown, and the under part of the body rather lighter. The hackles are striped black and brown.

Game fowls are fairly good birds to keep when they have a good range, as they search well for their own living, and are very hardy. The hens are not good layers in confinement, and only in exceptional instances where birds are bred from a good laying strain are really good results obtained.

Game hens only lay fairly well if they have a large range, but they are good sitters and mothers, and will defend their brood against anything, but they are spiteful to chickens belonging to other hens.

The Game make much better table birds than one would



BLACK-BREASTED RED GAME COCK.

expect, as they are very plump and fit to kill at any time, but we do not recommend this breed to anyone desirous of keeping fowls for profit in small, confined runs, nor at all, unless they have a wood or field for them to run over, in which case they would practically take care of themselves.

There are several other breeds, including Crêve Cœurs and La Flèche, which possessed very good qualities, but, through lack of demand, have become obsolete or practically so.





NON-SITTING BREEDS.

WHITE LEGHORNS.

THIS fowl, which was imported to England from Italy, has become in all its varieties the most popular egg producer in this country, as well as in America. The first variety of this breed, viz., the Whites, will ever maintain its position on account of its laying qualities and hardiness, and on all sides we hear from those who keep them that the demand this season has been better than ever before. We are not surprised at this, because poultry-keepers who are anxious to make as much as possible from their new-laid eggs favour the fowls which yield a liberal supply of them, and they all find that White Leghorns, when bred from good laying strains, are hard to beat for egg production. They are good all-the-year-round layers, and yield a better return, for the food they consume, in eggs than any other fowl, with the exception of the Black variety of this breed, which is quietly wresting the laurels from the Whites in the matter of better adaptability to town runs, and an even smaller consumption of food. When kept on bleak and cold exposed runs they require sheltered covered runs for the autumn and



WHITE LEGHORN COCKEREL.

winter months, and provided with these, will lay well throughout the winter, when new-laid eggs fetch the best prices.

The only drawback is the fact of their eggs having white shells, and the brown-shelled egg is always preferred, but when customers find they can rely on the eggs purchased being really new-laid they do not grumble at the colour of the shells, and if they can only get genuine new-laid eggs when these are so scarce they are prepared to pay prices which are very remunerative to the producers. Leghorns mature quickly, and the pullets are frequently laying by the time they are five months old, and when reared from really good laying strains can be relied on to lay by the time they are six months old; so that pullets hatched in June and July will be laying in the following December and January.

All lovers of fowls know the beautiful appearance of the White Leghorn when on a grass run.

We know of no prettier sight than a flock of these fowls on a country run, as they contrast so well with their surroundings, and their red combs and faces look so well in combination with their white plumage, and yellow legs and beaks. A great many White Leghorns are kept in town runs, but the birds do not appear to advantage when kept under those conditions, as their plumage looks so soiled; whereas Brown and Black Leghorns look quite as well in the town as they do in the country.

BLACK LEGHORNS.

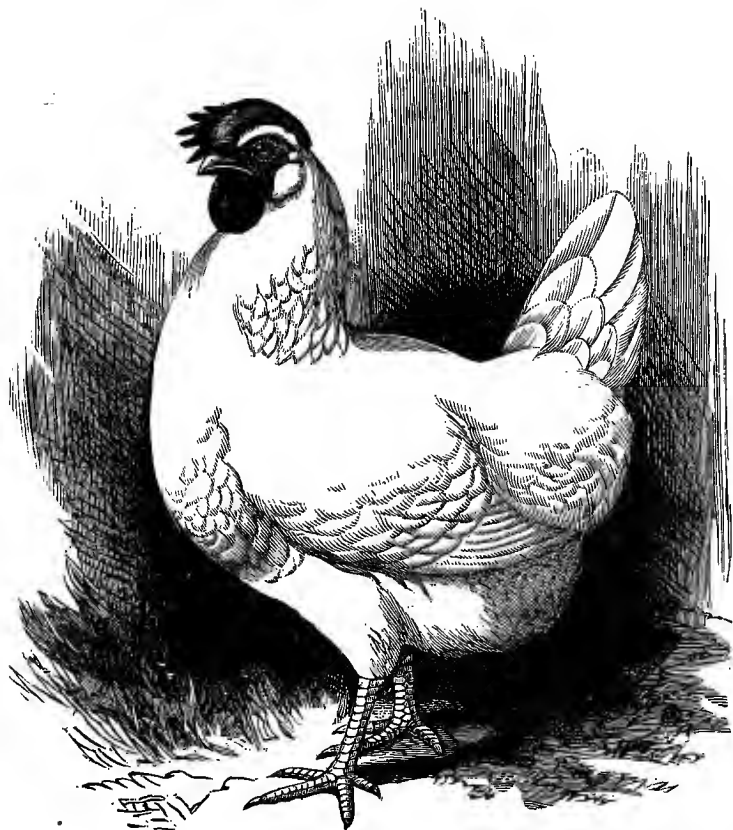
Since these were first imported, there have been other varieties, of which we may mention principally the Browns, Buffs, and Duckwings, but neither of these are making appre-

ciable headway. As the self-coloured varieties are found to be easier to breed, and as they cannot be beaten as egg-producers, the others offer no special attraction to the vast number of poultry-keepers whose principal object is to make their fowls pay.

The last variety to become a general favourite is the Black Leghorn, which now stands first in order of popularity, and, as egg-producers, these stand unrivalled. It is generally believed that these gowls are of pure Italian blood (introductions of other breeders in them by English exhibitors having been very rare), and certain it is that a close observer of the habits of the different varieties must come to the conclusion that the Black Leghorns are altogether wilder in their habits, and resemble in these the Anconas, which everyone knows have been of the most recent introduction, more closely than either of the other varieties of Leghorns.

Unless the birds have one wing clipped they are great flyers, but this tendency is entirely checked by cutting the principal flight feathers of one wing, leaving three at each end of the wing, so that when it is closed the missing feathers cannot be noticed.

The Black Leghorn ranks high amongst those breeds which have become popular on account of their useful qualities and adaptability to all the conditions under which it is necessary to keep fowls. Those who live in the country, and have nice grass runs, can keep fowls with white plumage in perfect condition, and do not always remember the advantages their birds possess over those fowls



WHITE LEGHORN PULLET.

which are kept in towns, and under these conditions the Black Leghorn is a truly profitable fowl.

The Leghorn has frequently been called the "natural layer" amongst poultry, and although some strains have been somewhat spoilt, owing to having been bred solely for exhibition purposes, it is a very unusual thing to find a Leghorn which is a really bad layer. Those strains which have been specially bred for laying produce birds than which it is impossible to get better layers.

Black Leghorns are wonderful foragers, when kept on a large range, and almost get their own living when they have the advantage of life on a farm or at a cottage by the country roadside, and when free range is denied to them they are quite happy in a small run, and being active birds they are very good doers when plenty of scratching exercise is provided for them.

They keep in perfect condition when kept in confinement, as their plumage does not show the dirt, and their combs, being large, and of a rich red when in health, they present at all times a pleasing appearance to the lover of nice fowls.

We consider that the Black Leghorn is hardiest of all the varieties of this hardy breed, and those who have gone in for them have had every reason to be pleased with the results, as they are kept successfully in very cold, bleak places, provided they have a covered run, so that on wet and windy days they get scratching exercise therein.

During the past two years the number of birds of this breed raised in England has been doubled, and there are evidences on all sides that this rate of progress will be continued, and this is entirely due to their merits as layers.

The Leghorn is one of the most popular breeds for exhibition, and the competition is particularly keen amongst the fanciers of the different varieties; but as a breed they have not been spoilt for profit. There is a difference between the egg yield of birds bred solely for exhibition and those which are bred simply for utility, but the fact that many of the "culls" from exhibitors' yards are bought up eagerly for laying purposes, year after year, proves that they are not spoilt in this direction.

As table birds the Leghorns are of no value, as they are so active that flesh is not put on readily; but this activity, which prevents the accumulation of flesh, encourages the productiveness of the egg organs, and in this respect Minorcas and Houdans possess distinct advantages, as the young cockerels of these breeds are acceptable on the table, and the pullets are, of course, very good layers.

A few Leghorn fowls can be kept in quite a small space, and will lay well both summer and winter. For confinement or town runs it is an advantage to have the Black variety, as their plumage does not show the dirt at all; and although the Whites would do equally as well if kept under these conditions, their feathers must show the signs of their surroundings.

Those who do not keep fowls and have not thus acquired that love for them which is found in the large majority of poultry-keepers, cannot help admiring a pen of Leghorns when they see them. Their activity is one feature which impresses everyone, and when seen in full lay they have much to recommend them, as their combs are then so beautifully red, and such a pleasing contrast to their plumage that it is not possible to allow them to pass unnoticed.

The same type appears in all varieties, and their carriage is the same. All varieties should have yellow legs and beaks, but in this point many Black Leghorns fail, as they are not so apt to come with dark legs, and a few white feathers frequently appear, and particularly in the male birds, even when the birds are from the best blood obtainable. Those whose experience with Black Leghorns is limited are apt to be disappointed on account of these white feathers in the cockerels, but the egg-producing powers compensate for this.

The illustration which we publish of a trio of our Black Leghorns represents birds of fine type, the photograph having been specially taken to show the sprightliness of the birds.

We believe that if those who go in for egg production on a large scale would systematically breed Leghorn fowls during the first six months of the year, carefully separating their pullets into batches according to their ages, they would have no difficulty in producing eggs in abundance all the year round. We find at the present time that utility poultry-breeders are aiming at this more than they have ever before done, but much remains to be accomplished in this direction.

In several parts of the country there is always a dearth of new-laid eggs, and as the prices realised are more satisfactory than before, it is a great pity that those who have the space and time at their command do not endeavour to fill this demand.

In breeding a number of Leghorns for stock, it is found that the large percentage of cockerels which come are not of much commercial value, as they are very small for the table, and their skins are yellow. It is advisable to kill them

off as soon as they are plump, say at from four and a-half to five months old, as they are so active in their habits that they lose flesh instead of gaining it after this age.

The separation of the pullets from the cockerels as soon as the latter show signs of taking notice of the former is necessary, as when the pullets are allowed to run with the cockerels they are developed too quickly, and frequently commence to lay before it is good for them to do so.

As we have said, White and Black Leghorns are all extremely popular, and those who wish for eggs and do not require table fowls cannot do better than go in for some of these fowls.

BROWN LEGHORNS.

The colour of the plumage of these birds is particularly handsome, and, on account of this, they will always maintain a measure of popularity, as they have all the beauty of the plumage of the Black-Breasted Red Game, combined with the more generally-admired shape of the Leghorn, and the excellent laying qualities also of this valuable breed.

The Brown Leghorn chickens are very hardy, feather fast, and grow quickly. The young cockerels soon begin to distinguish themselves, and as soon as they are about two months old they look like fully-developed Bantam cocks, and the stories that one hears of these precocious cockerels are sometimes most amusing. The pullets often begin to lay at five months old, but on an average six or six and a-half months.

They have very great digestive powers, and while they are inveterate layers, yet they do not grow fat internally, as

the healthy action their tremendous vitality creates turns the food into the very best channels, viz., eggs instead of fat, and avoids waste.

They are the most economical, therefore, as layers, and it is well to bear this in mind when selecting a breed for this special purpose, as Brown Leghorns can be kept quite well in the very smallest of runs.

We have often found small runs in villages and back gardens in towns where six Leghorns have been running in a space two yards wide by six long, and even then, in some cases, we have known the birds have laid 150 eggs each in the year, and these fine sprightly birds have looked quite nicely, and were as active and happy as possible.

When kept in confined runs they are valuable, because they do not show the dirt, and look really handsome where the white ones would present a most miserable appearance, and so they are chosen by many who like a nice-looking, sprightly fowl, which produces plenty of eggs.

BUFF LEGHORNS.

It is worthy of attention that, although every fowl of buff colour commands admiration, Buff Leghorns have not made the headway which might have been anticipated for them, for they have all the useful characteristics of the Leghorn breed, and are splendid layers of a fine egg, but they do not breed so true as the Buff Orpington in colour; nevertheless, there are hundreds of people who like a small, active bird as a layer and non-sitter.

The young cockerels can be distinguished at a very early age as to whether they will come a good colour or not, so

they can easily be sorted over, and the mismarked ones utilised for table purposes. All buff birds fade considerably, and particularly Buff Leghorns, more, perhaps, than any other, for a nice even lot of pullets of from four and a-half to six and a-half months old look very uniform; but when they turn twelve months old they look a different colour altogether, very pale, almost a dirty white, and particularly when exposed to the sun and air altogether.

When the plumage becomes wet and then dry day after day, the feathers soon fade.

Those who exhibit birds of this variety require to keep them, after they are three months old, entirely away from the sun during the heat of the day, and they should also be kept from the drippings of the trees. Poultry-keepers who only keep them for practical purposes need not trouble about this, as if kept from the sun they retain their colour so much better and look nicer.

The following is the standard of the breed:—

GENERAL CHARACTERISTICS OF COCK.

Head and Neck.—Beak: Stout, the point standing well clear of the front of the comb. Comb: Fine in texture, large but not overgrown, single, perfectly straight and erect, deeply and evenly serrated, the spikes broadening at the base; extending well beyond the back of the head and following, without touching, the line of the hackle; free from thumb marks and side sprigs. Face: Fine in texture, and free from wrinkles or folds. Wattles: Long, thin, and fine of texture. Lobes: Well developed and rather pendent, equally matched in size and shape, smooth, open, and free from folds. Neck: Well arched and full in hackle.

Body.—Body: Wedge-shaped, wide at the shoulders, and narrowing to the root of the tail. Breast: Round and prominent, the breast-bone straight. Back: Slightly rounded and sloping to the tail. Wings: Large, carried well clipped up.

Tail.—Moderately full, carried at an angle of 40 to 45 degrees.

Legs and Feet.—Legs: Long, the shanks free from feathers. Feet: Well spread, the toes long and straight.

Carriage.—Upright.

Size.—Medium, rather large to be preferred, consistently with symmetry and type.

GENERAL CHARACTERISTICS OF HEN.

Head and Neck.—Beak, Wattles, Face, Lobes, and Neck: As in the cock. Comb: Fine in texture, large but not overgrown, single, deeply and evenly serrated, free from side sprigs, rising from a firm base and falling gracefully over to either side of face.

Body.—Body: Wide at the shoulders and narrowing slightly to the tail, longer and not carried so upright as in the cock. Breast: Round, very full and nicely curved from the neck. Back: Long, fairly broad, and but slightly rounded.

Tail.—Fairly long and moderately full, but carried closely and at a slightly lower angle than the cock.

Legs and Feet.—As in the cock.

Carriage.—Description of cock applies.

Size.—As in the cock.

COLOUR OF WHITE VARIETY.

In Both Sexes.—Beak: Yellow. Eye: Red. Comb and

Wattles: Bright red. Face: Bright red, without any trace of white. Lobes: White or cream, the former preferred. Toe-nails: Yellow. Legs: Yellow or orange. Plumage: Pure white (straw-colour is to be avoided).

COLOUR OF BLACK VARIETY.

In Both Sexes.—Beak: Yellow or horn-colour. Eye: Red. Comb and Wattles: Bright red. Face: Bright red, without any trace of white. Lobes: White or cream, the former preferred. Legs: Yellow or orange. Toe-nails: Yellow. Plumage: Rich blue-black, perfectly free from feathers of any other colour.

COLOUR OF BROWN VARIETY.

In Both Sexes.—Beak: Yellow or horn. Eye: Red. Comb and Wattles: Bright red. Face: Bright red, without any trace of white. Lobes: White or cream, the former preferred. Toe-nails: Horn or nearly white. Legs: Yellow or orange.

In the Cock.—Head and Hackle: Rich orange-red, striped with black; crimson-red at the front of the hackle below the wattles. Back, Shoulder Converts, and Wing-bow: Deep crimson-red or maroon. Wing Coverts: Steel-blue, with green reflections, forming a broad bar across the wing; primary wing feathers brown. Secondaries: Deep bay on outer web, which is all that appears when the wing is closed, and black on the inner web, and covering the points. Saddle: A rich orange-red, with or without a few black stripes. Breast and Under-parts: A glossy black, quite free from brown splashes. Tail: Black, with green reflections; any



TRIO OF BLACK LEGHORNS.

Bred by William Cook and Sons.

Winners of many prizes.

white in tail is very objectionable. Tail Coverts: Black, edged with brown.

In the Hen.—Hackle: Rich golden-yellow, broadly and sharply striped with black. Breast: Salmon-red, running into maroon around the head and wattles, and ashy grey at the thighs. Body Colour: A rich brown, very closely and evenly pencilled with black; feathers free from light shafts. Tail: Black, outer feathers pencilled with brown.

COLOUR OF BUFF VARIETY.

In Both Sexes.—Beak: Yellow. Eye: Red. Comb and Wattles: Bright red. Face: Bright red, without any trace of white. Lobes: White or cream, the former preferred. Toe-nails: White. Legs: Yellow or orange. Plumage: Any shade of buff from lemon-buff to rich buff, on the one side avoiding washiness, and on the other side a reddish tinge. The colour to be perfectly uniform throughout, allowing for the greater lustre on the hackle and saddle feathers, and of the wing-bow in the case of the cock only.

BLACK MINORCAS.

These fowls have been for a considerable period very popular in the West of England, having been imported by prominent residents there from Minorca in 1830, and the following years.

The birds bred from those thus imported have been widely circulated until they have become one of our most popular non-sitting breeds, second only to the Leghorns.

For many years these birds were bred in Cornwall and Somersetshire on a large scale, about every second poultry-

keeper having them. In spite of their continued popularity in the West, it was not until about 1880 that they were bred in any numbers in the South.

There was, originally, much similarity between the Spanish fowl and the Minorca, as they were practically of the same build, but this has been to a great extent altered as the Minorcas have become more blocky in shape and appearance.

The Spanish fowl has practically become obsolete, and this is not to be wondered at as the size of their faces became abnormal, making them unsightly, and in many cases blind, and their usefulness in the matter of egg production was sacrificed by in-breeding to get the huge faces which were latterly seen in the exhibition pen.

The Minorcas have, however, made steady progress, and this has been entirely due to their merits and the pleasure derived from their graceful appearance, for when in full lay they have combs of a more brilliant red than the birds of any breed of this colour, which contrasts pleasingly with their white lobes and glossy black plumage.

In appearance fully-matured birds are very attractive, and no matter whether on grass or kept in close confinement, they always look neat and agreeable to the eye.

The young pullets are very dark in the comb before they redden up for laying, and purchasers of five-months-old pullets, having had no previous experience of the breed, are frequently disappointed with them on this account, but when once they start to redden up for laying they do not take long to become very brilliant in colour of comb.

It is not astonishing that Minorcas have made such wonderful strides since their qualities have been fully known in other



MINORCA COCKEREL.

parts of the country, as they are more satisfactory and consistent producers of larger eggs than any other breed, providing that their runs are situated in a sheltered part during the winter, and then on throughout the year, and when kept on an exposed range they do not lay as well during the winter as Leghorns, but during the spring and summer give a marvellous supply of eggs of such size as to fetch better prices than any other eggs.

The Minorca will always hold its own on account of its marvellous laying powers and the size of the eggs, which is such a distinct feature of this breed.

Minorcas give a larger return in eggs, when considered by weight, than any other breed of fowl, and although the shells are white, there is rarely any occasion to find fault with the colour of the yolk of the eggs, for, as a rule, these are of the deep shade so much liked.

Their eggs are certainly rich, and we know many people who prefer then on this account to eggs of any other breed.

There is no other breed which is produced so generally, amongst the non-sitting varieties, both in town and country, as the Black Minorca.

When one sees numbers of fowls of any particular class bred generally, and in all districts, one may be perfectly sure that the breed possesses qualities which make them profitable, because the requirements of poultry-keepers generally are fast becoming really sensible, and unless a breed is useful they discard them, and go in for one which will give an adequate return for the food supplied them.

The Minorca is essentially a fowl for laying, but although we should not advocate their being bred for the table, they

nevertheless possess very nice qualities in this direction, as although not meaty, their flesh is of fine texture, very white in colour, and of agreeable flavour. By small families, and those who require dainty fowls on the table, with compact limbs, the Minorcas are much liked.

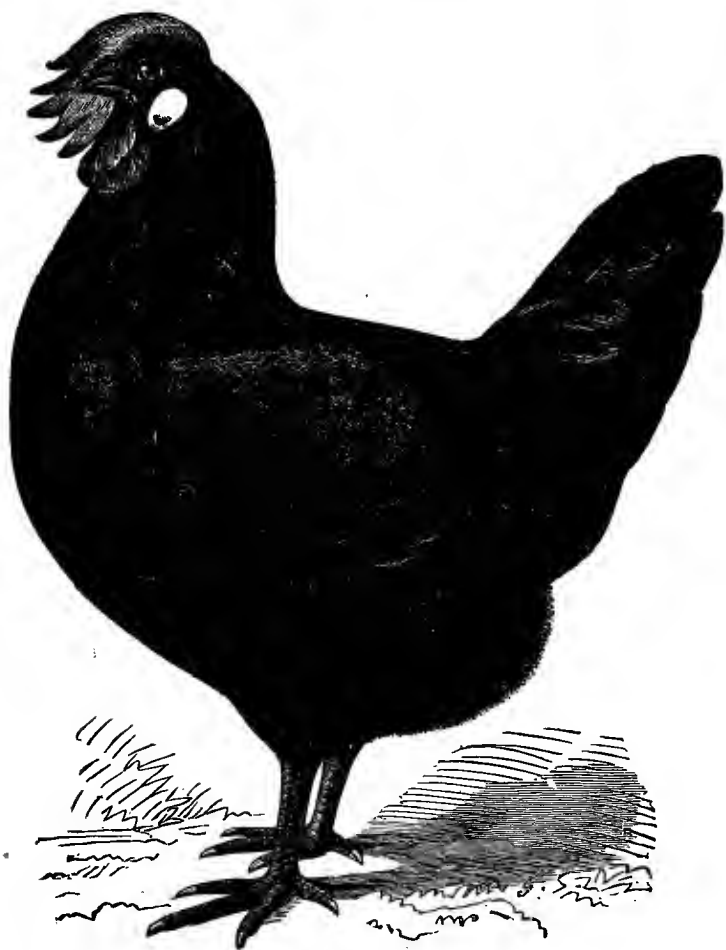
They do not put flesh on in the same way as birds of heavier breeds, and on account of their active habits will not stand confinement in a fattening coop, so that it is advisable not to run the cockerels on too long, but to kill them off when they are plump, at about four-and-a-half months old, when they will be found to be very tender and juicy.

The type has altered very much during the last ten years—as instead of the small compact birds seen then, they are now bred with more reach and weight about them.

For laying in January, February, March and April, when eggs fetch remunerative prices, pullets hatched during June and July, and well reared, are equally as satisfactory as those which are hatched earlier in the year, as they are kept growing from the time they are hatched, and are not subjected to any drawbacks as are the earlier chickens, for when they are on fresh ground, and not reared where numbers of other chickens have been all through the season, they do much better than April and May birds, provided that the eggs are obtained from hardy and unrelated stock.

Most of the hens in the stock pens during June and July are laying their second batches of eggs, and germs are much stronger than in those which are laid after March and in the mid-season, which makes a lot of difference to the stamina of the chickens hatched from them.

Those who have a small plot of land at their disposal on



BLACK MINORCA PULLET.

which they can rear a brood or two of Minorca chickens should certainly purchase some eggs in the summer when the prices are low, and rear the chickens for egg production, as they will find them very profitable.

The first step to secure satisfactory results is to breed from good layers, combined with healthiness and vigour in the stock birds. It is no use attempting to breed good profitable chickens from in-bred stock; the parents must be hardy and healthy to enable the chickens to thrive and grow into profitable birds.

This is the reason why much dissatisfaction is caused through the purchase of eggs from poultry-keepers who advertise their eggs largely, but who keep their fowls in small runs, as birds kept in close confinement do not throw strong, hardy chickens.

The next step towards success is to feed the chickens well, as the small additional cost for good food as compared with ordinary food is doubly repaid by the results obtained, as the chickens thrive and grow altogether larger than they otherwise would, and come to lay at an earlier age. This is one of the secrets of successful summer rearing, as when the young birds have not the opportunity of getting plenty of insect life, they need good nourishing food, which is, unfortunately, not supplied by many poultry-keepers.

The following is the standard of Minorcas:—

Cock.—Head: long and broad, so as to carry comb quite erect. Beak: fairly long, but stout. Eye: full, bright, and expressive. Comb: single, large, evenly serrated, perfectly upright, firmly set on head; straight in front, free from any twist or thumb marks, reaching well to the back of the head,

moderately rough in texture, free from any side sprigs. Face: fine in quality, as free from feathers or hairs as possible. Ear-lobes: medium in size, almond-shaped, smooth, flat, fitting close to the head. Wattles: long, rounded at the ends. Neck: long, nicely arched, with flowing hackle. Breast: full and rounded. Back: broad and rather long. Wings: moderate in length, and fitting close to the body. Tail: full sickles, long, well arched, and carried well back. Thighs and shanks: medium lengths and stout. Toes: four in number. General shape and carriage: upright and graceful. Size and weight: medium, rather large to be preferred, consistently with symmetry and type. Adult cock should weigh at least 7 lbs., cockerels, 6 lbs.

Hen.—Head, beak and eye: as in the cock. Comb: single, fairly large, evenly serrated, arched, drooping well down over side of face so as not to totally obstruct the sight, slightly rough in texture, free from any side sprigs. Face, ear-lobes and wattles: as in the cock, the ear-lobes rather more rounded. Neck: long and nicely arched. Tail: full and neat, carried well back. Legs and feet: as in the cock. General shape and carriage: upright and graceful. Size and weight: medium, rather large to be preferred, consistently with symmetry and type. Adult hens should weigh at least 6 lbs.; pullets 5 lbs.

COLOUR IN BLACK MINORCAS.

In both sexes.—Beak: dark horn colour. Eye: dark. Comb, face and wattles: dark blood red; face free from whit. Ear-lobes: pure white. Shanks: very dark slate. Plumage: glossy black.

VALUE OF POINTS IN MINORCAS.

Cock or Hen.

Defects.	Deduct up to
Defect in face: bloated red, coarseness or too hairy	15
Comb badly shaped, or twisted	15
Wrinkled, folded or stained lobe	10
Too light in legs, eye or beak	8
Other defects in colour	10
Crooked breast-bone	7
Want of size	15
Want of style and symmetry	10
Want of condition	10
A perfect bird to count	100

Serious defects, for which birds should be passed: white in face; wry or squirrel tailed; feathers on legs; other than single-combed; coloured plumage other than black or white in the several varieties; other than four toes; legs other colour than black or slate.

HOUDANS.

This breed is the only variety imported from France which have become really popular here, and these fowls have been increasing in popularity during the last twenty years or so. It is classed as a non-sitting bird, but this term should not be understood to mean that a bird which is called a non-sitter will not sit—particularly if she manages to steal a nest, as this solitude seems to form a great temptation for fowls of a non-sitting variety to sit.

The reason for Houdans having become so popular in England as practical birds is that they are such useful fowls for crossing purposes. The Houdan in its pure state is not a large bird, and compared with the large varieties are only small birds, but when they are crossed with other varieties of fowls the offspring is very fine. Our experience has been for many years that no birds equal them as non-sitters for crossing purposes.

We have used them with the greatest mongrels as well as the pure varieties, and the offspring have always been of the best quality as table birds as well as splendid layers.

The Houdan cock bird cannot be put in the wrong place. In some cases in crossing poultry-keepers have to be careful what they use, but it is always safe to select a Houdan. Before the Orpingtons were introduced we used to mate the Houdans with the old Cochins a great deal, and the results were marvellous. We have an old hen stuffed which was bred in this way, which produced 263 eggs in eleven months and one day, in her second year, and in some cases we have had considerably over 200 eggs produced by the Houdan crossed with the Leghorn in very small pens in town backyards.

People who produce early chickens for the market use a Dorking or some large bird, thinking they must get chickens which will develop very early from them, but there is nothing to surpass a Houdan chicken for growing for the first three or four months. We have known young cockerels hatched from Houdan-Leghorn and Houdan-Minorca weigh heavier than a Game-Dorking at three and a-half months old, all reared together.



HOUDAN COCK.

When Houdan chickens are done well in the pure state, they feather very quickly and develop quickly, and we know of no variety which feathers as fast as Houdans, and they grow particularly well when they are crossed.

We consider a Houdan and Buff Orpington cross for an all-round bird produces the best first-cross of anything we know for early table purposes, early eggs, for quickness of growth, and for the number of eggs produced in the autumn and winter; and for the production of eggs the Houdan-Leghorn is the best all-round cross. The pullets produced by mating a Houdan cockerel with Black Leghorn pullets cannot be beaten for egg production all the year round.

Pure Houdans are splendid birds to keep, as there is always a demand for them.

There is one little difficulty which has to be overcome in Houdans. Their top-knots as well as their bibs (or beards) become saturated with wet and dirt if they are allowed to pick their food off the wet ground, and the crest feathers, becoming wet, hang over their eyes and cause irritation, causing the fowls to scratch their eyes with their toes, often setting up acute inflammation thereof, resulting in colds which, if not attended to, develop into roup. Their faces swell, and as they cannot be seen on account of the feathers smothering them, they will run on two or three days before they are noticed. When people keep Houdans for practical purposes, they should trim the crests with a pair of scissors, removing the feathers from both sides of their faces, so that the condition of their eyes can be seen.

Houdan exhibitors try to get a large crest—which is the correct thing for exhibition—and five toes. The large

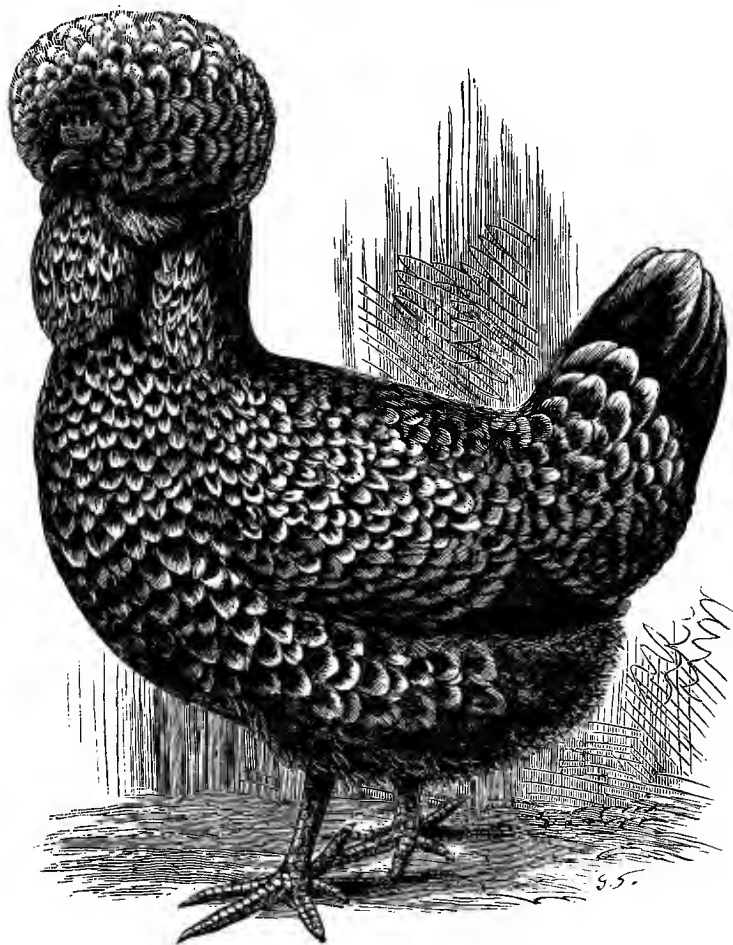
crest in the first place is a nuisance, and in the way, and the fifth toe is useless, but nevertheless it is the correct thing if a Houdan has to win in the show-pen.

It should always be a rule to breed small crests, where possible. We always do this, except in a few pens of exhibition birds, and these, of course, have the usual points. We always prefer to make utilitarian points our first study, and adhere to the value of the practical side in every variety, as being of more value than show points, but also breed show birds, which combine laying qualities.

When writing of Houdans over twenty years ago, we stated it was impossible to put a Houdan cockerel in the wrong place, for no matter what hens a bird of this breed was mated with, the results would be satisfactory, as the pullets would be much better layers, and the cockerels plumper table fowls, as the result of the introduction of the Houdan blood.

Writing now, after the lapse of many years, we can emphasise those remarks, for the Houdan is undoubtedly one of, if not *the* most useful bird for crossing purposes, and is undoubtedly equally as popular as the Indian Game for crossing, the latter breed being used largely by people who wish to breed good table birds, and the former for layers and table birds combined.

Years ago there were a great many more fowls which could be termed "mongrels" than at the present time, on account of the total indifference of poultry-breeders to the male birds used, as any cross-bred cock was considered to be good enough to breed from, and as a result of this policy many mongrels were bred. There has, fortunately, been an improvement in recent years, and gradually cross-bred cocks



HOUDAN PULLET.

have been discarded, a more profitable substitute being found in pure-bred male birds. It has taken years to convince the small poultry-breeder that it pays to select the best layers from the flock, and mate them with a pure male bird, but now that this is done by numbers of people, good layers are to be found everywhere.

The reason of the popularity of the Houdan fowl is their usefulness: for although they are not large fowls in their pure state, when crossed with other birds their progeny are very fine. This is undoubtedly due to their vitality.

We have used Houdans very largely for crossing purposes for many years. First of all, we bred the Houdan-Cochin cross, and we found the birds a great improvement for utility purposes on the Cochins, Brahmas, and Dorkings then in vogue. After this, we bred for quite a number of years the Houdan-Leghorn cross, and this continues to this day to be the favourite non-sitting first-cross, as it is not possible to beat these for egg production.

The Houdan-crossed birds are profitable under all circumstances, strong and robust chickens, which grow very rapidly, and are ready for the table at an early age, and it would be difficult to surpass the cross-bred Houdans for laying qualities.

There is always a great demand in England for half-bred Houdan pullets, and, as a rule, they fetch more money than birds of any other cross.

We may say that in all the years we have been in the poultry business we have never had enough of the cross birds to supply the demand there is during the autumn and early winter for pullets of these crosses.

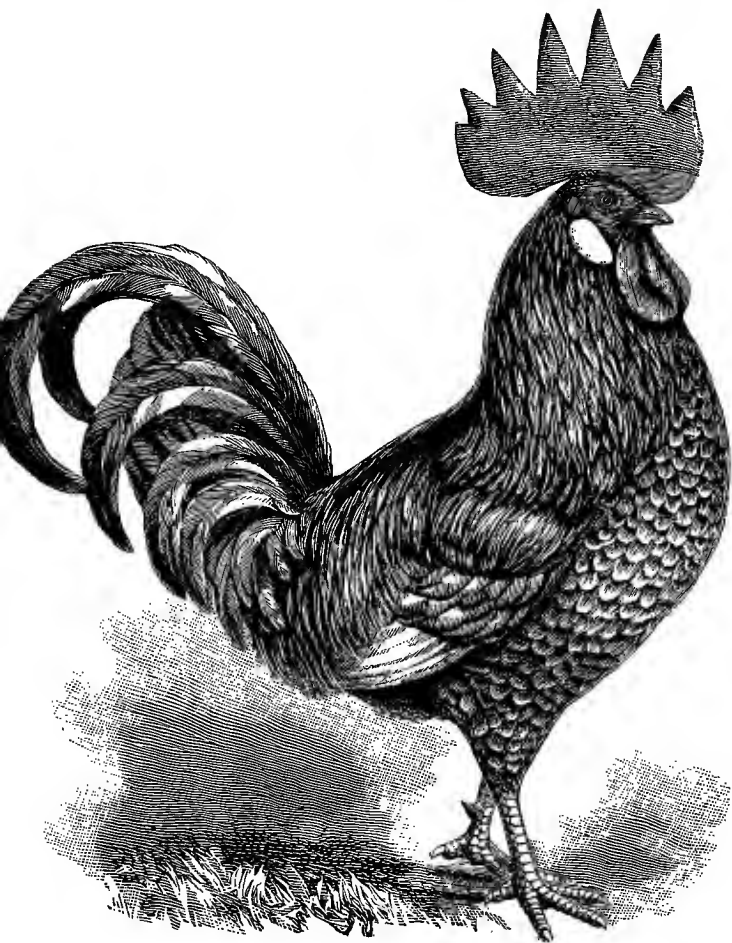
We always consider that Houdan cocks are far more valuable than male birds of the other non-sitting varieties for crossing, and we have tried them with every variety, and have never had a failure; as for early spring chickens, for white flesh and quick growth, the Houdan-Buff Orpington and Houdan-Jubilee Orpington birds make beautiful plump chicks, and ready to kill at sixteen weeks old, if well done, and in many instances they are in the London markets before they are that age, so it will be apparent that the Houdan is one of the best utility fowls we have.

We have, therefore, been pleased to see that classes for Houdans have been provided everywhere, even in Australia, as well as in the United Kingdom, where they are found wherever we travel.

Houdans have been improved in appearance very much since they first came to us from France, particularly in the crest, but there is one important part of the business, and that is that some people use them for crossing where some of the cross birds look like Houdan cockerels, and they are frequently sold as pure, when they are only cross birds.

Houdans will occasionally throw four toes, instead of five, and be pure, and we really prefer the birds thus, as they are frequently stronger and more nimble on the legs. Those who intend crossing Houdans should not use Houdan hens, as if they do they must not allow any other hens to run in the same pen, and they must put their cockerels with the hens while they are young, so that they may grow accustomed to them, as if not they will be averse to mating with them, and they will start pecking the hens, and will not mate with them.

When a few Houdan hens are running in a farmyard their



ANCONA COCKEREL.

eggs are rarely fertile; and although it is not impossible that cocks of other breeds will mate with them, yet it is unusual, and will sometimes be otherwise. This is the reason for the need to emphasise the necessity for using the Houdan on the male side when crossing.

There are few varieties in which cockerels sell better than pullets, but Houdans are one of these, and the cockerels will frequently make more than pullets, on account of the constant demand for them.

Poultry-keepers can scarcely do wrong if they mate Houdan cocks, whether for producing table birds or layers.

A Houdan cross is always distinct and to be distinguished from all others, as the cross birds always have a small crest, so that if a novice is buying birds and wants a Houdan cross, he should know what to expect.

ANCONAS.

These fowls were largely imported during the nineties from Ancona, and many poultry-keepers in England were most sanguine as to their progress, anticipating a large demand for a non-sitting fowl of distinct colouring to any then bred; but the results of all the correspondence in the different poultry papers at that time were disappointing, for no appreciable progress has been made, and yet the Black Leghorn has become so popular, so that no further proof is wanted as to which is the more profitable breed.

It was found that Anconas were particularly wild in their habits, and altogether too nervous to keep in confinement, and when on a free range were rarely seen, save at feeding time. Anconas are undoubtedly Mottled Leghorns, and pro-

duced as the result of mating Black and White Leghorns together, and the mottling of their plumage being very difficult to get true to colour, has been one of the drawbacks to the progress of the variety.

The Ancona cocks have large combs, which should be just like a Leghorn's, well set on the head, and with large serrations; white ear-lobes, which should be considerably smaller than those of the Leghorn, long wattles, yellow beak, streaked sometimes with a darker shade, face red, eye brown or hazel, and yellow legs, or these latter in some cases a little mottled or with a few streaks, with four toes on each foot well spread apart.

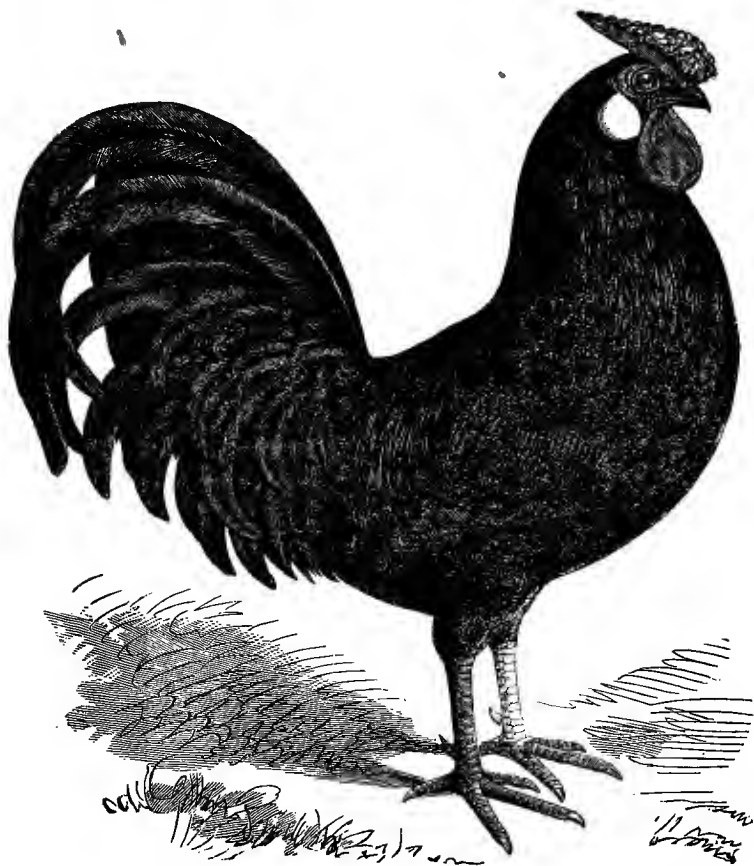
The plumage should be speckled black and white, and free from red feathers, and the carriage very upright. They should be compact birds, and with tail carried rather high; they have an alert appearance, and are very nervous.

The hens are just the same colour as the cocks, the comb should be over to one side, and the more evenly marked the better. In breeding, if hens or pullets are light in colour, they should have a dark cock mated with them, or *vice versa*.

BLACK HAMBURGHES.

The Hamburg fowl is one of the oldest breeds we have in England.

There are several varieties of Hamburgs: Black, Golden Spangled, Golden Pencilled, Silver Spangled, and Silver Pencilled—five distinct varieties, all always very much admired wherever they are kept. We think they are the most handsome fowls for a small breed of all fowls we have, as



BLACK HAMBURGH COCK.

they are so compact, with a flowing tail and magnificent plumage, and a neat rose comb.

The Black variety are considerably larger than the others, and the egg is also larger than that laid by the other varieties, but they are all good layers when they are bred for that purpose.

Many years ago they were called "everlasting layers," as they have been known to lay such a large number of eggs; and they are termed non-sitters. Occasionally, but rarely, a bird of this breed will come broody.

When the Leghorn was introduced into England, Hamburgs were somewhat overshadowed, and this has continued to the present day; on account of the Leghorns laying larger eggs there is a much better demand for them.

There are a good many poultry people who do not like a rose comb, and these, of course, favour the Leghorns. We have known Black Hamburgs turned down in a farmyard, and watched the results for years in the laying hens, these being neat, compact birds and extraordinary layers. We once knew a half-bred Hamburg pullet which laid over one hundred eggs, and never missed a single day. This wonderful bird laid over 300 eggs in the twelve months.

There is a remarkable feature about Hamburgs which is not found in any other fowl. They live longer and lay up to a greater age than any fowls there are. We have known half-bred Hamburgs lay right up to ten years of age, and pure Hamburgs for even a longer period; while a great many laying hens seem to close their career as layers about three years of age, and some should never be kept more than one year, especially when they are proved to be bad layers.

SILVER CAMPINES.

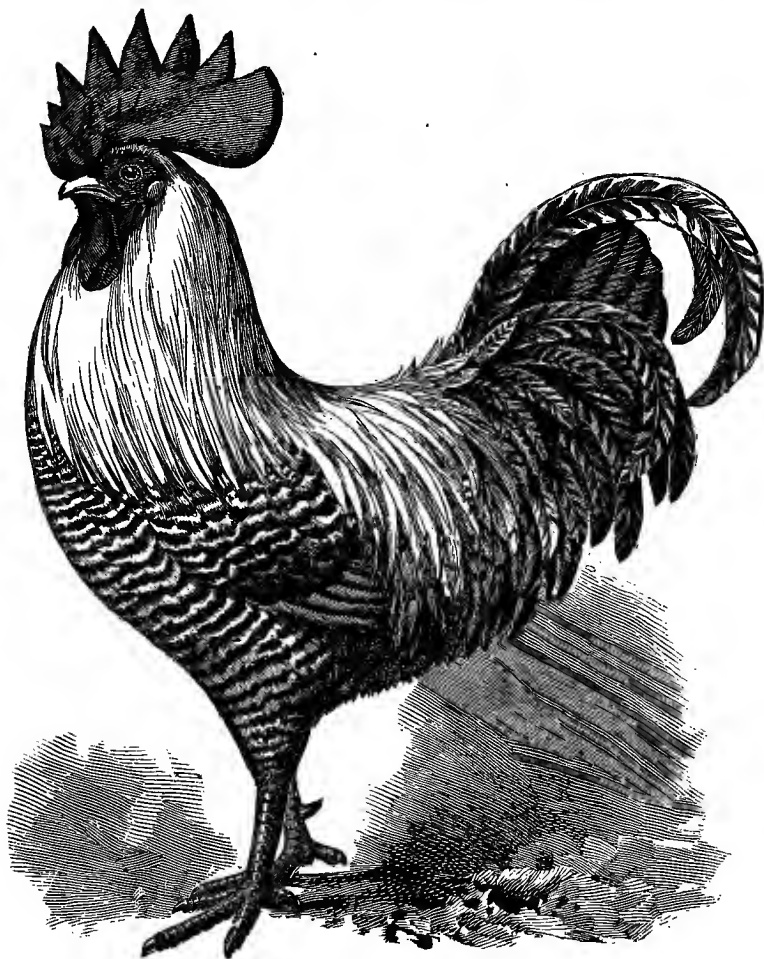
This is a non-sitting breed, for which there is but little demand, although they are good layers, and certainly look beautiful on the green grass, with their red combs and wattles, and splendid pencilled plumage. They are always on the alert, and will scratch for their living if they have the opportunity.

We have heard poultry-keepers remark that Campines are not good layers, but we have found them most satisfactory, but, of course, they are small in size, and cannot be called a table bird, and their eggs are also very much smaller than people like generally.

BANTAMS.

Although regarded as useless by many poultry-keepers, these small birds are responsible for the circulation of a greatly under-estimated yearly sum in England. In some cases they are kept by children, and afford their small owners a vast amount of interest, and we can conceive of very few better gifts from parent to child than a pen of Bantams, providing amusement and employment of the best kind, and the return in eggs from the Rose-combed Bantams—of either the White or Black variety—is surprising, and many nursery breakfast tables could be well supplied with new-laid eggs if each child was allowed to have a pen of Bantams—and a few square yards of land to keep them on; and this plan would be found to give more pleasurable occupation than anything else—after the digging stage has passed—besides cultivating in the children the faculty of that closer observation which results in the formation of habits of thrift and carefulness, which, in after life, become invaluable to them.

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SILVER CAMPINE COCK.

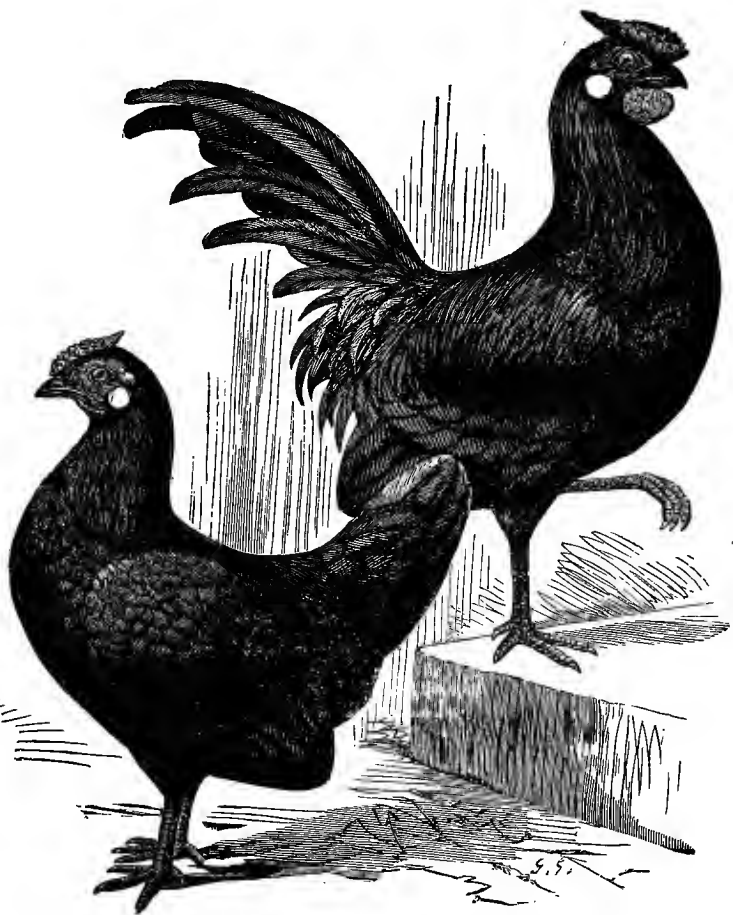
The breeding of Game Bantams and Frizzles occupies the attention of very clever poultry-breeders of to-day, and good business is done in the sale of stock birds. It is not possible, in this little book, to describe the points of the many breeds of Bantams, but we will just mention the Black Rose-Combs, of which we give an illustration.

This variety is spreading rapidly, and is becoming one of the favourites in the Bantam fancy. They are our favourites, as they are not only very pretty little birds, but such good layers and very hardy. Being black, they do not show the dirt when kept in the backyards of towns. Many of our leading fanciers first started by keeping a pair of these birds. We always like to encourage young people to keep these pets. Birds of this breed should have nothing but black feathers, with a splendid gloss on their plumage, especially the male birds. Both sexes should have a neat rose-comb, red face, free from spots or streaks of white, and small white ear-lobes, free from wrinkles and red spots, black legs, four toes on each foot. The cocks should be very full in the breast, and have a fine, flowing tail. The smaller they are the better, if they are compact and well shaped. Where so many make a mistake in breeding Bantams is, they hatch them out too early in the season. If they are not required for the show-pen until November, May or early June is the best time to hatch them out. If for summer shows, they may be hatched out early.

The smallest Bantams we ever bred were hatched in the month of September. We have found this variety the best layers of any Bantams, and also of the largest eggs according to the size of the bird. They can be kept in a very small

pen, if required. One male bird may run with about three or four hens. In all cases where they have not a grass run they ought to be supplied with green food. Nothing is better than watercresses where they can be procured reasonably, and chopped grass and dandelion. The chickens hatch out strong. When first hatched they are black on the back, and a light colour underneath. Occasionally they throw white feathers in their wings, but usually shed them in their chicken moult.





BLACK ROSE-COMB BANTAMS.



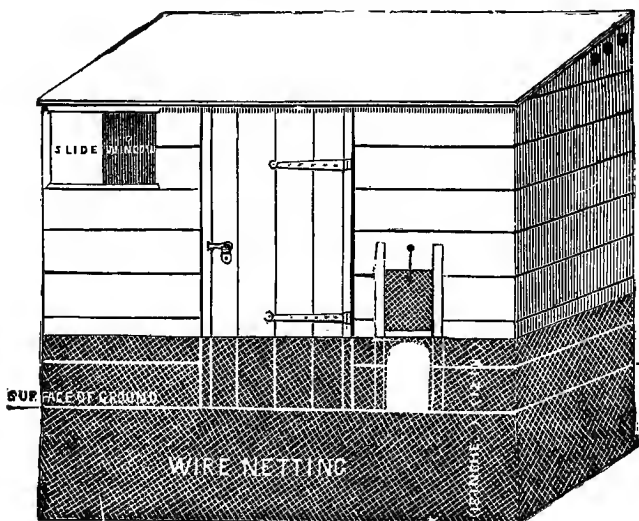
THE GENERAL MANAGEMENT OF FOWLS.

HAVING considered the question of the relative qualities of the different breeds, the novice, after selecting the one which he believes will best answer his requirements, seeks for advice as to the way in which the fowls should be housed, fed, and managed generally. The question of the kind of house which is to be provided often gives rise to the careful consideration of the necessary expenditure to effect its purchase, and while there are so many cheap and flimsy structures on the market, as at the present time, so long will there be disappointed poultry-keepers. When a house is made for the accommodation of fowls by a practical poultry-keeper, who, from the close observation of his birds, has been enabled to find out what are their requirements in housing accommodation, the results are satisfactory to the purchaser; but when, as is more often the case than not, the houses are run up of the cheapest materials to be bought, and just made attractive to the uninitiated by a few sliding shutters, and under-floor scratching accommodation, the purchaser usually pays two-thirds of the amount which would buy a house to last for twenty years, during the whole of which time, owing to the sensible arrangement of ventilation

and perches, his fowls could be kept in good health, and repairs consist entirely of a renovating coat of tar or creosote each spring, and an application of lime-wash every spring and autumn. We have been utterly disgusted when we have on many occasions seen in a yard, to which we have been invited to elucidate the reason for non-success with the fowls, to find the frauds practised on unsuspecting amateurs who go to poultry shows and purchase a house on the strength of the recommendation of a plausible salesman and a coat of cheap paint to cover up the defects in the timber; or who, seeing the houses advertised in a poultry paper, saves enough to buy one under the impression that they are making a good provision for the future welfare of their feathered pets, and it is not until after struggling on, trying nearly every food which is suggested for the maintenance of health in fowls, and finding all a failure, and then, when the defects of the house are pointed out, it gradually dawns on them that when the house was purchased the troubles began. Far better would it be to let the birds sleep out of doors than in many of these houses, which have absolutely no ventilation in them, and which, when closed up at night by the careful poultry-keeper, set in motion all the influences of impure air long confined to a limited area, resulting in the lowering of the stamina of the birds daily, and the development of roup, diphtheria, and an entire loss of any remote possibility of profit.

Buildings for the accommodation of poultry should be constructed with primary reference to ventilation as the all-important factor of health. Fresh air is "living food." This invisible fluid that surrounds us constantly, so that we are hardly conscious of its presence, differs in its life-preserving

qualities in no respect from the beef and mutton that we bring upon our tables. It is indeed, light and invisible, but its absorption is ceaselessly going on, and hence throughout the twenty-four hours the amount consumed becomes prodigious, and any deficiency or defect in the supply is very soon felt by the whole constitution.



LEAN-TO HOUSE.

The subject is one of the greatest importance to poultry-breeders; indeed, an error in this will seriously diminish, if not entirely destroy, his profits. An error, also, is very easily made, for economy in building poultry-houses is rightly thought to be so important a matter that the temptation is to crowd their inmates as closely as possible.

In the first place, a deficient supply of air results in a depraved constitution; none of the natural processes go on well. The fowl will not lay so well nor raise so large a percentage of chickens, for the reproductive apparatus is among the first points of attack when the system is lowered. A more palpable injury, however, is that the flock becomes much more liable to contagious and epidemic diseases, such as roup and cholera.

The need of ventilating poultry-houses is, in many cases, the greater, because they are so often attached to or near stables. It must be remembered that however clean are the surroundings, the danger from over-crowding is the same. Air that has been breathed contains matter given off from the lungs that is as destructive as that in the barn-yard heap—to say nothing of the fact that the oxygen, the life-giving element in it, has been removed.

In arranging the ventilation of the poultry-house, however, care is to be taken to avoid irregular draughts, especially through small openings. The instinct of fowls teaches them to roost out of draughts, when it is possible.

Fowls are often kept in close quarters for some special purpose, such as fattening for the table, or to induce laying in winter. Even here it is probably the warmth in the latter case, and the quiet in the former, which make the experiment successful. No one pretends to consider these conditions natural, any more than caponising or cramming, and their use is temporary, and end with the accomplishment of the purpose. In both these cases also it is by no means certain that fresh air, if warm, would impair the result.

The real test of such treatment is in the condition of breeding stock, and it will be found that these must have ample supply of air all the year, or they will disappoint the breeder.

It would be impossible to do without poultry-houses, for how would the poultry-keeper in small villages get on without them? Farmers frequently do not require to build poultry-houses for their fowls. They have plenty of outbuildings, but if they would take the advice of one who has tried all ways of housing poultry, they would convert one of the outbuildings into the poultry-houses, and use it for that purpose alone. Fowls which sleep first in one place and then in another are liable to contract disease.

People try to keep their birds as warm as they can, but it is certainly a mistaken kindness. Many persons have an idea that the warmer birds are kept the better they lay, but this is altogether wrong, and it is a mistake to heat the houses artificially. There are a good many oil-stoves used for poultry-houses, but the birds are not any the better for them; they are pampered up and feel the cold much more when they come out of the houses.

The best way to ensure the health and happiness of the fowls is to provide them with wooden houses, made of yellow matching $\frac{3}{4}$ -inch, without draught, nice and warm round the bottoms, but with plenty of ventilation at the top, so that there is a free current of air passing over the birds' heads; then they do not feel the cold when let out.

The most satisfactory style of house is that with a lean-to roof, and by arranging the highest part of the house in front, sloping the roof to the back, the rain pours off there, and does not trickle on the fowls as they go into their house

through the door, which should be placed in the front. The roof should be made of rough floor boards, and covered after it is finished with tarred roofing felt. There is a great advantage to be gained by building each house in sections, i.e., front, back, two ends, and roof, and bolting the corners of the four sections together for sides, front, and back, and then bolting the roof on. The "plates" for the bottom should be 3 by 2 in. quartering, and for the framework 2 by 2 in. quartering should be used, for although many poultry-keepers consider $1\frac{1}{2}$ by $1\frac{1}{2}$ strong enough, we do not, and particularly for houses on farms, which, when placed out in the fields, frequently provide a scratching-place for the animals which are there at times, and we have before now seen houses left decidedly out of the perpendicular after the cows have finished with them, and for houses in the fields where horses are grazing, nothing less than 2 by 2 in. should be used. The system of ventilation we advocate, and which has been adopted by many thousands of poultry-keepers, is to leave a space of four inches right round the top and sides of house—between the roof and top plates—allowing a free circulation of air over the birds' heads, and providing an outlet for those foul gases which are the cause of disease and want of progress.

A sliding window should be provided to each house, to admit plenty of light, and by having it sliding in a socket there is no difficulty experienced in closing it when the wind is in the quarter which allows the rain to beat in on the fowls.

Inside the house, perches should be fixed so that the ends drop into a socket which keeps them about 15 to 18 inches

above the floor of the house. Heavy birds should not roost higher than this, and light ones should never have perches higher than two feet, and 18 inches provides a safer distance for hens to jump down from. These should always be movable, as if they are nailed the red bugs get underneath the ends and are most destructive to the comfort and health of the fowls, as they suck their blood when they are on the perches at night.

The perches should be paraffined two or three times during the summer to kill these pests, and bark should under no consideration be left on the perches.

Where rats are found they should be prevented getting into the house by strips of wire netting being put down in the ground, about 12 inches below the surface. This will prevent burrowing under the boards, and be an effectual safeguard against rats, and any house may be made rat-proof in this way.

It is not essential to keep fowls warm in fowl houses at night. The cooler they are kept the more eggs are produced during the winter months, shelter from wind and rain being what they require. Fowls, as a rule, will lay as many more eggs in an open shed as they will produce in a warm brick building during the winter months, and cannot well have too much ventilation, provided they do not roost in a draught. We always leave the doors or windows open at night, even in the coldest weather. When fowls have a warm house at night they should have a warm, sheltered run during the day, as, if they do not, they feel the cold so when they run out first thing in the morning.

In putting the houses together it is well to use screws as

far as possible, so that the buildings may easily be taken to pieces. The sides should be made so that each one is a piece, as this makes it quite easy to transport them flat from place to place.

Perches for fowls should be made quite flat, and about two inches wide, the sharp edges being bevelled off. Where round perches are used the pressure upon the breastbone causes many of the chickens to have crooked breasts.

There should be quite a clear 15 inches between each perch, as if this is not allowed the birds are apt to peck each other, and for large fowls 18-inch spaces are better.

The nests should be placed so that the front of each box faces the darkest part of the house. Some persons reverse matters, but experience clearly proves that a hen takes more readily to the nest when it is shaded from the light.

Nest boxes should be 15 inches square and high, and should be placed on the ground.

The question of the provision of floors for fowl houses must be decided after consideration of the position and the likelihood of having rats. When there is no inducement for the congregation of these pests, the house should be without a floor, as now and then the birds scratch away all the peat or dust on the floor, and particularly when first put down, and the bare boards are apt to give them cramp, which must be avoided. The ground, when used for floor of house, should be first beaten down with a beater made of a heavy block of wood with a long handle, and is then ready for the erection of house, which should always be placed on bricks at the four corners, and some earth banked up round the inside plate to prevent the fowls from scratching out the soil from

the floor under the sides of the house. The provision of a covered run to each roosting house gives the most perfect combination of accommodation it is possible to arrange. The run should be of same height and width as the fowl house, and double its length. When house and run are built at the same time, only one end is required to the run, as the one side of house provides the one end. An opening (with a slide) should provide exit for the fowls from the house to the run, and a door should be made in the front of the run, which, to save extra timber, should be made first and allowed for when sawing off the timber for the remainder of the front of the run.

The back and side should be of feather-edged boards, unless to secure uniformity the poultry-keeper likes to indulge in making it of $\frac{3}{4}$ -in. match-boarding, as used for the house, and the front of run to the height of 2 ft. 6 in. should be wood, the intervening space being filled up with wire netting.

The houses and runs should be built 6 ft. high, sloping to 5 ft. at back, this height providing a perfect area of air space over the birds' heads when they are on perches 18 inches from the floor. When more than one pen of fowls is to be kept, there will be economy in arranging to build two houses together, with a covered run at either end, thus effecting a saving of three ends, as the house would be built in one, partitioned off with thin boards to a height of 3 ft., and wire netting on the top of this, and the two sides of the house would provide two of the ends for the covered runs. Then the wire netting to divide the two pens of fowls off would be brought up flush with the division in the houses, and if the position is bleak, three boards should be nailed

down one side of the wire netting which provides the division between the two runs, short posts being driven into the ground on which to nail the boards. A wire netting gate, also arranged with boards at the bottom, should be placed to give access from run to run, and should be near the houses, provided this is the best position for it.

The bottom of the covered run should be covered with quite dry earth, dry leaves, or loose straw, and among this a few grains of corn should be sprinkled, which will cause the fowls to scratch, giving them employment and circulating their blood.

This little exercise is most valuable, and will ensure good health and laying results in confined runs, especially during the winter months.

A perch should be put in the covered run, as the birds like to sit on these and clean their plumage. When this is provided they clean themselves more and do not pluck their feathers so much, neither do they huddle together in groups, and even in the open it is well to put up a perch, as anything that separates the birds gives them health and vigour. This should always be placed in such a position as to ensure plenty of sun, and afford good shelter from cold, wet, and winds.

It is very unwise to herd fowls together in large flocks. Each pen of fowls should be kept separately, and then, when there are a large number of pens of birds kept, one large run into which doors from all the runs open, and the birds should be let out one pen at a time for a few hours at various periods during the day.

Every pen will in this way get a good run, and after a day

or two they will go in and out of the pen with very little driving, as they get accustomed to the routine.

Thirty birds is the very highest number that should be kept in one pen, while in breeding pens the number should never exceed fifteen.

To successfully plan out, say, an acre of ground, it is well to divide it right across the middle. Then the houses and small runs should be put in the warmest positions and have a slide door through which the fowls can run into the large grass run.

When no grass is growing in confined runs they should be swept well, especially in hot and dry weather, and in very wet weather the top should be taken off, so as to keep them as firm as possible. Even the grass run should be swept well and rolled two or three times a year, a short time after heavy rain, as this will make them harder and firmer, so that the fowls will not be able to scratch up the grass by the roots.

The foregoing is the very best and most economical method of housing poultry, and one which will produce the best results.

After the purchase of the house, the erection of the run must receive consideration, and for this wire netting is one of those things which are indispensable wherever poultry are kept. Never before has there been such a demand for this article as during the past few years. No matter whether poultry-keepers live in the country or the town, it is an impossibility to keep fowls without having certain places wired in.

The question is always being asked as to which kind of wire netting one should have for this purpose, as there are

so many different meshes and gauges, and few seem to know anything about them, more especially the gauge. There is a great deal of cheap foreign wire made and sold, which, if taken down and put in another place, breaks directly, and is simply useless; or even if a cat runs up the wire it is apt to get bent and broken.

We are living in a day of cheapness, and people will rush for things at a low price, especially if it answers their purpose just as well for the time being; but, after all, it is more expensive, so that it is always best to buy good wire at the first. We have more than once seen wire netting which has been up in poultry yards for from two to four years, taken down and sold at a sale, and it has not realised one penny per yard, 3 ft. wide and 2 in. mesh. Our experience has invariably been that the so-called cheap wire was the dearest in the end, and it is quite evident to even a casual observer that there is a vast difference in the quality of the wire made in England and that which is imported.

The question is asked where the cheapest and best wire can be obtained. This is a difficult matter to settle, as there are several who supply really good netting. In answering advertisements with the intention of ordering, whether of an ironmonger or manufacturer, people should always state what their requirements are. No doubt many people do, so far as they know—that is, if they want a roll of wire they order fifty yards, three feet wide and two inch mesh, but it is the gauge they do not understand, and this is the principal thing, because in the gauge comes the quality of the wire.

The gauge is made according to the mesh. For instance, in the $\frac{1}{2}$ -inch mesh wire, which is very seldom used, except for

keeping rats out, or for making aviaries for cage birds, the best gauge is eighteen, and goes up to twenty-two, the latter being the commonest wire. For ordinary purposes, nineteen gauge is useful, and would be quite good enough, but, of course, eighteen is better.

In $\frac{3}{4}$ -inch mesh, the gauges run from seventeen to twenty, the first number being the best, and the highest number inferior. In 1-inch mesh seventeen gauge is the best, and will last longest; this goes up to nineteen. In this mesh eighteen gauge would be useful. One-and-a-half inch mesh gauge runs from fourteen to nineteen; seventeen is good enough for almost anything. Two-inch mesh gauge runs from thirteen to nineteen; seventeen will do for general use, but nineteen is usually sold by those who advertise, as that is the commonest, though eighteen is very fair, and will do to put against a hedge, as it does not get quite so much wear. The hedge very soon grows into the wire, and thus keeps it in its place; but should the latter be likely to be taken down at any time it is better to have seventeen gauge.

We would never advise poultry-keepers to purchase wire above gauge eighteen, and in most cases it will be found that seventeen gauge is the cheapest in the long run. Two-inch mesh wire is more used than any other for poultry runs.

Three-inch wire is of little use, unless put up three feet from the ground, then, to save expense, it comes in useful, as two-inch mesh can be placed at the bottom, where it is very necessary to have only small mesh wire. Where three-inch mesh is used, it is very apt to get broken by dogs or other animals. If this happens, the birds may easily get through before the owner or attendant can see the hole, and

great mischief may be done, especially to the cock birds; and this is not all—the cock birds sometimes get their heads through and fight, and not infrequently split their combs or cut them about.

Where the two-inch mesh is joined at the top, the gauge should never be lower than seventeen, but sixteen would be the best and cheapest in the end.

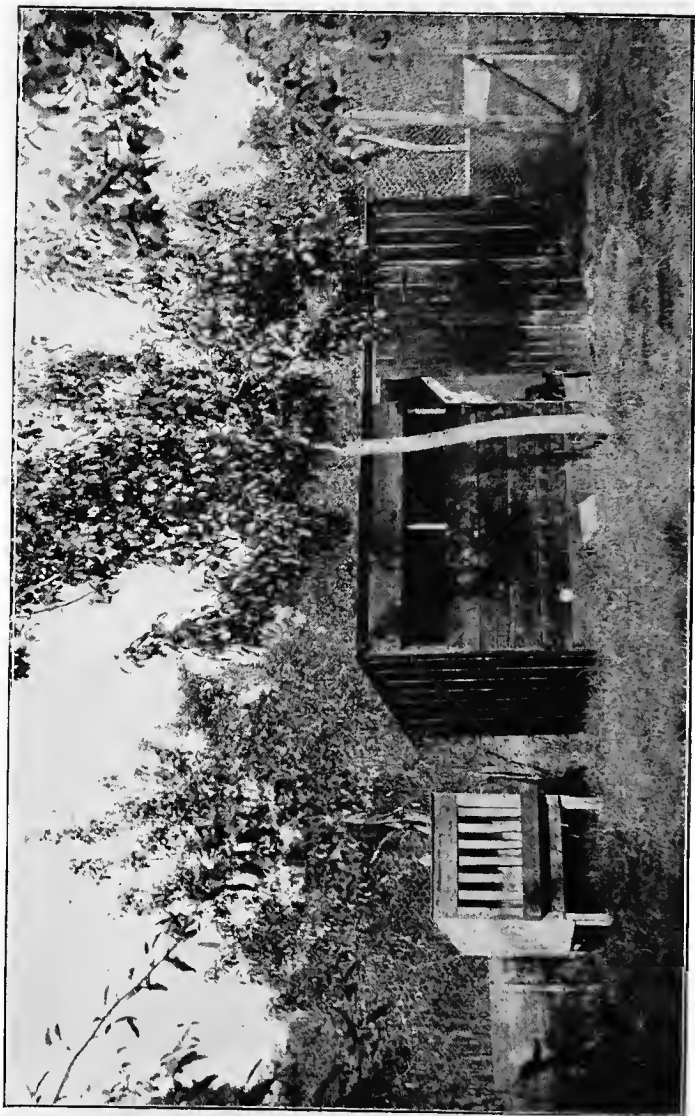
TO PREVENT FLYING.

Those poultry-keepers who require fowls for laying, and prefer non-sitters, have perforce to select breeds which naturally fly high, and it becomes necessary to curb ambition in the feathered bipeds in some way or other. There are people who practise the shutting up of their fowls during the gardening time; but this is avoided by clipping the feathers of one wing of each fowl to confine them in their quarters, and the bird is thus deprived of its equilibrium of flight, but disfigured till moulting time.

Those who regard the appearance and comfort of the fowls will catch the "high fliers," and trim the shaft or barb of the feathers to within an inch of the tip. This causes little disfigurement and keeps the fowls within bounds, for by removing the flight feathers from the inner part of one wing, the bird is prevented from balancing itself for flight, and when closed the missing feathers are not noticed.

THE TREATMENT OF BROODY HENS.

When pullets and hens become broody, and are not required to sit, they should not be left on the nest at all, but transferred straight away to a coop which is made specially



*WHITE ORPINGTONS.
BROODY COOP, HOUSE AND COVERED RUN AT ORPINGTON HOUSE FARM.*

for the purpose, and has bars across the bottom, to prevent the fowls occupying it by sitting down. Then along the length of the coop a trough is placed, so that the fowls are fed from this, and then a galvanised drinking trough is fastened inside this feeding trough to keep them supplied with water. The coop should be placed in the run occupied by the fowls, in full view of their companions; then the prisoners are interested and eat well.

Directly a hen begins to show the first signs of becoming broody, she should be immediately transferred from the nest-box to the broody coop, with which runs occupied by layers of brown eggs should be furnished. By this treatment for a few days the pullets and hens often re-commence laying so soon as they are returned to the pen.

The frequently-heard complaint of the broodiness of the brown egg-producing breeds is due to the lack of knowledge on the part of those who attend to them, in allowing the birds to remain on the nest too long before the broody coop is requisitioned; and in consequence the bird takes longer to recover its normal condition, and probably does not re-commence laying for three weeks or a month.

We are convinced that when keepers of heavy birds have succeeded in realising the importance of the broody coop there will be far less complaint as to the inconvenience of broodiness, and consequent loss of eggs.

The illustration here shows a perfect broody coop (painted white), with house and covered run (tarred), being the provision made for all breeding pens of brown egg-laying breeds for every poultry-keeper who studies the best method of providing for his birds.

MOSS PEAT.

Many poultry-keepers who have only a few fowls look after them themselves, and to this class anything that will lessen labour and make the work of tending them pleasant is most welcome.

Great objection has been felt, in many instances, to the work of cleaning out the fowl houses, due to the really bad condition into which some of them have been allowed to get, through the insufficient amount of litter, and in some cases owing to the lack of suitable material for this purpose.

The poultry-houses are generally lime-washed, and in the towns, or on the outskirts of towns, there are very often, unfortunately, low-pitched erections—so built as not to be visible from the windows of the dwelling-houses near.

This fact renders it very difficult for the poultry-houses to be thoroughly swept and cleaned out. To avoid having to do this often, some people have used dry earth, cinder ashes, and in other cases lime, to put on the bottom of the houses. These have not always had the best effect; and, in fact, the lime has occasionally proved itself most dangerous, where it has not been mixed with moss peat, as when the fowls flap their wings, the lime flies up, and sometimes gets in their eyes, causing a great irritation. Instances have been known where a fowl has done itself great injury through the scratching of the eye in this way.

In some cases their feet are damp after running out, and if they tread in upon the dry lime this adheres to the damp feet, and so when scratching themselves they make bad matters worse; and, instead of allaying, increase the irritation. The eye is scratched right out sometimes, but in any event,

the scratching makes the eyes very tender, especially in crested birds.

When all this is done there still remains a faint smell from excrements, as there is nothing in these things to destroy this.

Moss peat, however, is the one thing to use in the fowl-houses, to ensure healthy conditions, as it is a perfect deodoriser. When it is spread from three to five inches on the floor of the fowl-house, it will form a nice bottom, and if raked over once a week it destroys the smell, and so keeps the house sweet and clean. It is absorbent, and maintains a dry floor, for when the fowls run in with wet feet they are at once nice and dry and warm, and this is a very great consideration, and has a great influence on the health of the birds.

To ensure this, however, great care must be taken to see that the floor of the house is well raised, so that the surface water from outside does not drain in underneath it and make it wet, as this destroys every advantage, and only serves to increase the discomfort of the fowls.

Moss peat, if it is to be of benefit to the fowls, must be dry; and when the weather is cold during the autumn and winter months, some grain should be thrown into the moss, so as to give them the scratching exercise which is so beneficial to them.

Fowls are very fond of dusting themselves, and they can have nothing better for this purpose than moss peat, as it not only saves a great deal of trouble in cleaning the houses out, but also keeps them nice and sweet and fresh, so that the offensive smells that were once so frequent wherever fowls

were kept have almost entirely been got rid of wherever this moss peat is laid down.

The peat is soft and spongy, and if a hen drops an egg from the perch it is rarely broken, and when the birds jump down off the perches it is soft and nice for them, and avoids any possibility of bumble foot or affections of a kindred nature, from which fowls often suffer, owing to some blow received when they fly down from any high point.

Fowls are very fond of it, and will often scratch a hole and lay their eggs in it in preference to the nests, and the clean, comfortable houses make all the difference to the laying results.

There is also another side to the question; for the moss peat not only absorbs much of the goodness contained in the excrement, such as the greater part of the ammonia, but it also retains it, and after about six months, if the peat is carefully cleared out, this makes most valuable manure, and is excellent for all kinds of garden and farming ground.

Some may feel puzzled, and wonder how the peat can possibly be sweet when the excrement is still contained in it, but smells do not exist where it is used, and so the houses are freed from the noxious vapours that would otherwise have filled the atmosphere. Some poultry houses are not cleaned out more than twice a year, or at the most three times, and they keep perfectly sweet, clean, and in dry condition. It should be remembered that anything which renders the air in which the birds sleep purer is valuable upon the score of health, as pure air means oftentimes purer blood and greatly increased vitality.

We advise German moss peat in preference to the English,

as this is not quite so light and loose; but if any reader lives where the English is sold, it will, of course, be cheaper for him to buy this, although it will not last so long in the fowl-house.

Farmers are often in possession of a good deal of short stuff which answers for litter, and where this is so it is not necessary or advisable to buy moss peat. There are cases where even, although none of the chaff and dust are forthcoming, short horse manure, which makes a very good bottom, may be used. The dust and chaff which come mixed together from the thrashing machine make good litter, and this should be spread six or eight inches thick over the floor of the house, but a barrow load or two of horse manure, fresh every week, and stirred over occasionally, forms a very good substitute for the dust.

It is most essential to provide scratching exercise for the fowls, and any litter should be selected with this end in view, as the birds scratch it over and so hide much of the excrement from view.

Moss peat is also a splendid thing for putting in the bottom of coops. It is especially useful for putting into the chicken coops, as the little birds run in upon it and so dry their feet, oftentimes avoiding cramp and other affections; and in pens where fowls are put to be prepared for the show pen it is peculiarly valuable, it being dry and clean, and so the plumage is at its best when the show time comes.

INSECTS IN THE FOWL HOUSE,

It has been said that the power which enables people to take great pains amounts to genius; but whether this be

so or not, the power to take pains is a most important factor in the success of poultry undertakings, and it is a few of the old details and some new ones that we propose to consider under this heading.

One of the great and most important questions connected with poultry-keeping is the vermin question. These little pests swarm in some of the fowl-houses, and play sad havoc with birds of all kinds and all ages—the weakest going first to the wall, in the natural course of events.

One little red bug we have long known as a terrible pest. We have found them congregating in large numbers in some hiding-places, and then at night, when the birds are roosting, coming forth and sucking their blood as they perched and attempted to rest.

These pests get on the bodies of all sorts of birds, and not in solitary instances. We have in the past found it existing, and have been alarmed to discover how prevalent this has become.

To remedy this state of things, the greatest care must be taken to see that the perches are quite clear of these pests. As before mentioned, the perches should be made to fit in sockets, so that they may be examined and cleaned at the ends.

The great reason why this matter should receive immediate attention is that the winter laying is very largely dependent upon the preserved vitality of the fowls; and in seventeen out of twenty cases we are called upon to investigate, in which fowls do not lay properly during the winter months, we find the loss occasioned solely and simply through the ravages caused by insects that prey upon the fowls.

We have recommended burning up the old perches, and in cases where they are fixed they should be pulled out, and any bark-covered perches should be burned, and every part cleansed, so that every one of the bugs is destroyed.

Were it not for small maggots or grubs that live on these red bugs, and turn into a light brown moth, the case would be worse, as these keep the red bugs under in the old-fashioned fowl-houses.

Then, as to the birds that are infested—of course these insects are not like fowl lice; they are stronger, ever so much, and to paraffin birds is out of the question.

Sometimes, in bad cases, the insects eat right into the flesh, and it is very essential that insect powder should not only be used freely, but care must be taken that the powder reaches right down to the skin where the insects are, so that they are killed, as the birds must suffer a good deal of annoyance and pain where so dreadfully infested.

We have tried experiments lasting over several days, to determine the best method of treatment, and the insect powder kills them in from seven to ten minutes, although fowl-lice would not last as many seconds, and the specially-prepared insect powder, if the insects are covered, kills every one.

Of course, when the insects collect in large numbers upon the head, the skin must be well covered, and great care must be used to guard the eyes of the bird, for the insect powder must not be allowed to get into them, as it would cause great pain.

After the head has been well dusted, the superfluous powder should be wiped off with a dry cloth. We trust that our

readers will examine their birds for these bugs, as we find that they continue on the heads of the fowls.

TO DISINFECT HOUSES AFTER DISEASE.

It not infrequently happens that amateurs, through lack of knowledge as to how best to manage their fowls, get an outbreak of roup of a virulent kind, and in some cases enteritis, which is, unfortunately, most fatal to the birds which are attacked, and to those occupying the house and run afterwards, unless stringent methods are adopted to prevent the germs (which are transmitted to healthy birds by the excrements from those that are suffering from the disease) becoming operative, and the only way to do this is to thoroughly fumigate the houses and to destroy them finally.

Fumigation with burning sulphur is one of the most economical and effective proceedings in the work of disinfecting and sweetening poultry-houses.

When fumigating, every living thing must be excluded from the building; all doors and windows tightly closed; and cracks and crevices plugged up. The sulphur or sulphur candles should be placed in small metal pans, which should rest in a quantity of moist ashes or earth, and be so placed that they cannot possibly set fire to the building. A little blotting-paper soaked in a saturate solution of saltpetre, and then thoroughly dried, when used as a wick, placed in the centre of a little heap of flowers of sulphur, will prove an effective means of quickly setting fire to it. Simply light the end of the blotting-paper, and it will soon fire the sulphur.

After the sulphur is lighted and burning well, leave the building and close it up tightly, first making sure that all

live animals are out of it. Leave the house closed for from twelve to twenty-four hours, then open all doors and windows wide, and let the whole building air thoroughly. It should air for two or three days before stock is allowed to use it.

After fumigating, remove six to eight inches of the top earth of the floors, if earth floors are used, and carry this to some place remote from the poultry buildings. If wood or cement floors are used, remove all earth, dirt, and litter, and scrub with hot water and plenty of carbolic soap. Good results will be found to follow the use of carbolic acid in each bucket of wash-water.

WHITEWASHING THE HOUSES.

After fumigating and clearing out the polluted top earth, dirt, and old litter material from the floors, give the interior of the house a thorough cleansing with good, freshly-made whitewash, applied, if possible, while still warm from slaking. A good whitewash for this purpose can be made by slaking quicklime with just a sufficient amount of water to make a thick paste, adding a pint of melted lard or other grease and a cupful of common table-salt to each half-bushel of lime while slaking. This lime-paste should be further reduced with water to a consistency of thick cream. One fluid ounce of ~~creolin~~ may be added to each three-gallon bucketful of whitewash when it is ready to use. Apply with an old broom or ~~coarse~~ brush, slapping it on freely, so that it will work well into the cracks.

Many poultrymen object to whitewash in the poultry-houses because it rubs off. A recipe for a wash that will not "rub" is as follows: One peck of lime slaked in boiling water, and kept just covered by the water while slaking; strain through

coarse cloth; add two quarts of fine salt dissolved in warm water, one pound of rice-meal boiled in water to a thin paste, one quarter-pound of whiting, and half-a-pound of glue, dissolved in warm water. Mix all thoroughly, and let stand, covered, for two or three days; stir occasionally, and heat the mixture before using.

Care should be taken to wear old clothes and old shoes when whitewashing, as the lime is sure to injure cloth and leather. It is a good plan to wear a pair of automobile goggles to protect the eyes, and gauntleted gloves to keep the lime off the hands, and not to be afraid of putting the wash on freely.

When whitewash is objected to, the house can be freshened up and rid of vermin by fumigation with sulphur, or painting with paint, or any of the wood preservatives; or spray the interior of the house with kerosine emulsion, or with hot soapy water containing three ounces of creolin to the gallon of water. Whatever method employed, be sure to air and dry out the house thoroughly before you let the fowls return to it. Do not shut fowls up closely at night in a house which has been fumigated with sulphur during the day, or the results will be disastrous.

FEEDING.

Many poultry-keepers do not give their birds soft food in the morning, as they consider it costs more than hard corn, and thus is a loss; but this idea is a mistaken one, for fowls fed once a day on meal will produce at least thirty to forty eggs more per bird during the year, in comparison with others kept under exactly similar conditions which are fed

on hard grain, and it must be remembered that these extra eggs are produced in the winter months, just at the time when eggs are most valuable.

One reason why soft food in the morning is beneficial to fowls is that the hard corn takes a certain time to soak in the gizzard, while the soft meal passes into the system immediately, and the fowl is nourished at once, so that no time is lost, and the flesh or eggs are produced with less exertion than if hard corn were given.

It will be seen, therefore, that it pays better to give the soft meal once a day, viz., in the morning, and this may consist of biscuit meal or ground oats, and either of these should be mixed with middlings or sharps, the quantity of sharps used depending greatly upon the other meal used, but one part of biscuit meal and one part of fine sharps, or middlings, makes a very good mixture.

Hot water should always be used for mixing the meal—or hot skim milk is better where it can be obtained—and during the winter months the food should also be given hot, as this helps them in very many ways. Care must be taken not to make the food wet or sloppy, as it is not so good for the fowls when it is sticky and clings to their beaks.

Fat or scraps from the table are very good for mixing with the meal; and in the winter, if there are not many scraps, it is a good plan to buy some liver, lights, paunches, or tripe, to boil up for the fowls. A sheep's paunch may be had for two-pence, and nine to eighteen pounds of tripe may be bought for one shilling, and this should be given to the fowls the last thing before going to roost, as they will greatly enjoy it, and eat ravenously of it. It should never be given, however,

before the corn, or the fowls will probably show some preference for this, and eat the meat and leave the corn. After the lights or paunches have been boiled, the water might be used to mix the meal, as this water has a good deal of the goodness of the meat in it.

Some people would not have time to boil and prepare this class of meat, and these should use granulated meat in the soft food, as this does not require anything beyond boiling water, which should be poured over the granulated meat, and then it is ready to mix with the meal when it is hot.

Spare cooked vegetables, such as small potatoes and greens, and pieces of fat meat, may also be used, as when these are mixed up with good meal they make first-rate food. Turnips, mangel wurzel—in fact, nearly all vegetables—may be used in the same way, especially during the winter months, when green food is scarce; and they should be thrown down so that the fowls may peck at them. They may be given either boiled or raw.

During the autumn and winter, on days when the weather is cold, it is well to give the fowls warm water to drink first thing in the morning, as, after drinking cold water, they will often stand moping about on one foot, whereas the warm water seems to revive the whole system.

The poultry powder should be used in the soft food three or four times a week, as this helps them through their moult, and brings on one or two-year old hens, as well as the young pullets, to lay through the winter. When hens stop laying, or are not doing well in the summer, some poultry powder should at once be given for about a week, as this pulls them round, and they commence laying almost at once.

It is a very good plan to drive the birds back into the house for three or four hours after a warm meal, if they have no covered run. After the first few mornings there will be little trouble in doing this, as they get accustomed to it, and they will run into the house again as soon as they have finished their breakfast. They should be fastened in with the wire door, so that light and air may enter, and the place made and kept comfortable.

The better plan, however, is to have attached to every house a covered run where the fowls may run in and be sheltered from wind and weather, and get plenty of scratching exercise. In the covered runs they should be fed on very cold mornings, and thus be protected from the cold winds, which are likely to do them great harm in the production of eggs.

When these rules are carefully observed, there will be no reason why eggs should not be produced all the year round.

Biscuit meal is one of the very best foods to use, and it can be given alone or occasionally with other meals mixed with it. When biscuit meal is not used, some flint dust, mixed with middlings, barley meal, house scraps, etc., will help them very much, as it furnishes material for making the shells; and this is far superior to the old mortar.

It is the wish of every poultry-keeper to get eggs from their birds during the winter months; but although they hatch their pullets early with this object in view, they do not always realise the best prices for their eggs, because they are not able to produce them at the time when they are scarce, and consequently fetch the highest prices.

It is possible, by careful management of the birds, to

secure eggs all the year round, and those who hatch pullets for laying will do well to learn how it is managed.

If the young pullets' combs grow well, and they redden up for laying before eggs are required, they can be kept back by being moved from their run to another every fortnight.

A peaceful, contented life, combined with warm, soft food in the morning, and good grain, produces development, and consequently activity, of the egg organs; while hard corn and scratching, with plenty of movement, have the opposite effect, and delay the development of the egg organs, but assist in the growth of the birds, which are certainly stronger and hardier than those which are encouraged to lay at an earlier age.

When pullets are first allowed to lay at an early age, as birds bred from really good laying strains will do, eggs will be produced before they are wanted; and then, when they are fetching the best prices, the birds will be resting between their batches. Those who have not tried to arrange matters in this respect will be very surprised to see how much they can do by the regulation of the birds' diet.

We have frequently kept pens of pullets back from laying for two months in this way; and then, when we have required eggs, we have had them in full lay, by feeding them on nourishing soft food for breakfast, and boiled grain at night, with the addition of some meat two or three times a week. It is necessary to begin feeding on soft food carefully—not to soften the condition of the birds too suddenly after being fed on hard corn altogether.

Where there are flocks of young birds, as there are usually on every successful poultry-farmer's place, and on many ordi-

nary farms, it is most essential that plenty of housing accommodation be provided. Over-crowding should be very carefully avoided, as the young birds grow better when they are not crowded together, and they keep much healthier.

Where it is not possible to build substantial houses to keep in reserve for the extra number of birds which there must of necessity be during the autumn, before the cockerels hatched in the summer are disposed of, and the young pullets sorted for laying purposes, it is well to provide the extra accommodation by the erection of padded hurdles, or sheets of galvanised iron, taking care to allow plenty of light and ventilation for the birds. We have frequently seen fowls which have not been doing well improve wonderfully in their condition by thinning them out, and giving all more room, and a dose of castor oil once a week. A little aperient is most helpful to birds, which frequently suffer from partial indigestion; and we believe that much illness would be avoided if more care were taken in this respect.

Young cockerels and pullets should always be separated as soon as they can be distinguished from each other, as the pullets do not develop so quickly when thus separated, and this is a distinct advantage to their stamina; for although early laying proves that the laying strain of the birds is all right, and the sight of a few eggs is a pleasant one to those who have not done much rearing, the experienced poultry-breeder knows that it is not for the good of his pullets to produce eggs which are worth but little when laid before the birds are from six to seven months old.

We have been frequently asked as to whether it is possible for those who rear pullets for laying to get a constant supply

of eggs throughout the year, and we have invariably answered in the affirmative; but we know so many who fail to accomplish their purpose that we feel it will be helpful if we give a few hints on this subject.

First of all, to secure eggs all the year round, one must consider that the egg selling season commences in October, and to produce eggs then, pullets should be hatched in February and March, and kept back from laying until the beginning of October, then pullets hatched in April and May will be laying in November and December, and these, if run on through the winter months and well fed, will lay right through the spring and summer.

In the winter months the production of eggs has to be considered from an entirely different point of view to during the autumn, as the time is here when eggs are required, and when it is advisable for poultry-keepers to give their fowls the extra food necessary to the production of eggs in the winter months.

Those who have early-hatched pullets which they have been keeping back from laying by corn feeding alone, can, by generous treatment, bring them on to lay by a judicious change of diet, in a short time.

They should have a nourishing feed of soft food for their breakfast; and unless there are good house scraps, this should consist of scalded biscuit meal, given alone for two mornings in the week, and equal parts of biscuit meal and middlings for the other mornings, and good corn at night. Nothing is better than English wheat and short (preferably "clipped") oats on alternate days.

Where birds are kept in confined runs the soft food should

always, during the winter months, be given in troughs, as the use of these ensure food being quite clean, and the fowls relish it more. Another advantage gained by putting the food into troughs is that as soon as the fowls have had enough the troughs can be taken away, and so no waste food is left.

During the spring and summer the fowls should be let out of the house for half an hour or more before giving them their breakfast, as this sharpens their appetites, and they are ready for a good breakfast when the time comes ; but in the winter they should be fed as soon as possible after being released from their houses.

During the winter months, and particularly when it is wet and miserable, and so chilly in the mornings, the birds require very generous treatment, and at this period they are better for the addition to their food of some of our poultry powder, which is most beneficial, as it strengthens every organ of the body, so that the fowls produce a large number of eggs, and are neither weakened, nor over-stimulated, as is the tendency of much of the stuff sold for making fowls lay well. More than this, the powder imparts vigour to the birds, and their combs become red, the plumage has a beautiful gloss upon it, and a marked difference, which is the result of vigorous health, soon makes itself visible in the appearance and general condition of the birds before the powder has been used many days.

Fowls require shell-forming material, and there is nothing better for this purpose than flint dust and ground oyster shells. The value of flint dust is not generally understood by poultry-keepers, but when it is it will be used more largely

than bone meal, as it strengthens the egg organs, and supplies shell-forming material, and for the production of strong and sturdy chickens there is nothing to equal it.

When fowls do not have lime in some form or other, the oviduct of the laying hen becomes very much weakened, and this results oftentimes in birds producing a number of eggs without shells at all. When this happens, the skins of the eggs, which are almost ready for laying, are apt to break before the fowls can pass them; the skins remain behind, and set up inflammation of the oviduct, frequently causing death.

This can be avoided by the liberal use of flint dust and ground oyster shells. In the breeding season flint dust should be used daily, as this is very beneficial to the birds in several ways.

So far we have confined our remarks principally to the best food for fowls, but, perhaps, a not less important subject is when and how to feed them, and in what quantities. To safely judge this, one must take a personal interest in their poultry.

Some writers advocate certain definite rules as to feeding and a suitable allowance per head, and although this system is very good in theory, in practice it is not always the best.

The quantity of food should be judged by daily experience, as one fowl will often consume twice as much as another. The birds vary very much in their feeding capacities. Some people weigh out the food; this, too, is bad policy, as it is better not to limit the birds to quantity.

The golden rule in feeding poultry is to give the birds no more than they will eat up quickly, and which they will run

after if thrown a good distance, as then they eat their food with a relish, which is most helpful to them in several ways.

No food should be left lying about the yards or runs, or even left in troughs, as the very sight of such food turns the fowls against it, as well as attracting sparrows, mice, and rats, and when rats once get into a poultry yard they often kill the little chickens in addition to stealing the food.

When fowls leave their food they should be made to miss a meal, and they will soon find the lost appetite, and the rest given clears the system, and in many cases this does the birds much good.

When there is a dry plot of grass or gravel, the fowls should be fed on it; but where there is a covered shed or out-building with a lot of loose stuff at the bottom, a good deal of the corn should be thrown into the covered-up part, as this gives the birds scratching exercise, which is especially valuable, because it brings health, vigour, and vitality to the birds in the cold weather.

Where farmers constantly feed their fowls in the farmyard, they might always throw the corn among the loose stuff, etc., so that the birds may scratch for it, and continually get the much-needed exercise.

SHARP GRIT.

Poultry-keepers who wish for success cannot afford to forget the sharp grit which is absolutely necessary to aid in the assimilation of the food, as it performs the same act for fowls as teeth do for animals. The food has to be masticated before it can be digested, and this is particularly the case with the hard corn. Fowls cannot keep healthy and thrive

for long together unless they have a good supply of sharp grit, in one form or other.

Although this subject is frequently referred to, there are many poultry-keepers who do not give the attention it requires, and many birds die from a stoppage internally for the want of it. Those birds which do not have sharp grit have distended gizzards, the husks from the grain being, in such cases, all found together in one mass.

When this is the case, fowls are almost certain to have diarrhoea, or be much relaxed. Nothing does them as much good as a teaspoonful and a half of salad oil poured down the throat of each bird. This will often remove the hard substance, and partly cleanse the gizzard of its contents.

When the food does not digest properly the fowls become very thirsty, so that they will drink water until it runs out of their mouths if they put their heads down to peck up some corn from the ground. When birds are observed to be in this condition they should be caught and held head downwards, and their crops gently squeezed with one hand, then the liquid will come away.

When all the liquid is removed, give them some salad oil, as there is always an amount of inflammation in cases of stoppage: the oil relieves it very much, more particularly in the gizzard. There are many fowls dying yearly for the want of sharp grit, and more than double the number of chickens, for they are often cooped on grass, where there is not a particle of grit to be found. Failure to supply this often causes a slow supply of eggs, and if fowls have not the materials for digesting their food it is impossible for them to get on, for the proper nutriment must be extracted

from the food to enable the production of eggs to take place. Flint grit is the best for the purpose, as it is very hard and sharp, and a small quantity goes a long way. Much which is sold is worthless for fowls, and only clogs their gizzards, so that every poultry-keeper would do well to see that the grit which they are giving is that which will be helpful and not harmful to their birds.

SITTING AND HATCHING.

To ensure successful poultry-keeping, it is necessary for everyone to gain information as to the best methods of rearing their young broods, and as the natural method is altogether more successful for small poultry-keepers, we consider it essential to devote space to its consideration, only referring to the artificial methods, as the management necessary for the successful use of the different machines varies so much that it is safer for the inexperienced to follow the directions supplied by the makers of the particular machine which is purchased.

NEST-MAKING.

This is the first stage of hatching. In the early part of the season it is very necessary that a hen's nest should be made properly, as the cold air should not be allowed to get under the eggs.

Poultry-keepers require to be very careful in setting their hens, as a good deal depends upon how this is done. Of course, readers will know that a hen cannot be set unless she is broody; and after being assured of her broodiness, the hen should be handled properly as well; but, unfortunately, many of the birds are not. Many people when collecting

the broody hens will carry them by the legs, head downwards, and others will carry them by the wings. A broody hen should not be carried by legs or wings, but merely lifted carefully off the nest and gripped firmly round the back part of the body, holding the wings so that they cannot be flapped about.

When the hens are treated kindly, they can, as a rule, be induced to sit anywhere the owner requires them to be.

If it is necessary to set a hen which has travelled to fresh quarters, it is always better to put her on in the evening after the birds have gone to roost.

Nest boxes should be made considerably larger than is generally allowed, as it is important that a good depth and width should be provided, as only when a good amount of earth is put in is sufficient moisture supplied wherewith to damp the eggs. The heat from the hen's body draws it upwards as the inner membrane of the egg is softened by this moisture; consequently, if there is not sufficient, the dry, tough membrane holds the chicks prisoners, and many are thus lost. Where a nest is large, this is, of course, avoided, as there is a much better supply of moisture.

The nest box should not be less than 18 inches square. A board 6 to 7 inches wide should be put in front of it, so that the damp soil, when thrown in, should be a little higher than this board. The soil should be beaten into shape with the hand, which it is well to protect with a glove, so that nothing that may be in the soil may cause injury. Some people have a piece of wood, about 3 or 4 inches square, to beat the soil with, but the hand shapes the earth better.

The nest should be made perfectly round, and the centre

the lowest point of the hollow, so that all the eggs will roll towards the centre. After the nest is shaped it can easily be beaten out a little wider at the top if more eggs are set. A hen will cover 15 eggs in the coldest weather—but it is better to be on the safe side, and if valuable eggs are set, the usual 12 to the sitting, placed in a well-made nest, will hatch for all they are worth, as few addled eggs are found if this is done.

A little slack lime should be put round the top of the nest and in the middle, so that when the nest is lined with fine meadow hay this lime comes under the hay, and kills any vermin which there is a possibility of accumulating. It is very necessary that the hay be interwoven and put together, layer over layer, so that it is nice and smooth.

The hen turns her eggs twice in each 24 hours, and when the nest is properly made the eggs turn quite easily, and do not roll one on the other.

When the hen is sitting, her wings rest on the side of the nest, and her feet go down to the bottom, so that it is important the nest should be of good shape, as if it is very flat the legs are kept straight, and she will get cramp.

A hen making her own nest will form it into a perfectly round shape, and the eggs will fit in nicely, and she will frequently bring home 15 to 20 chickens. The nest we have described is an exact copy of one a bird would make for herself, and hatch a good brood.

Some writers recommend straw instead of hay; but some of the ends of the straw, poking out of the side of the nest, are in reality little channels to convey the cold air straight under the hen, and if she is sitting in a wooden box, with

the little pieces of straw, it will be found that it takes from 24 to 36 hours for the chicks to hatch out, because the eggs get cold by turn, and difficulty in hatching is the result. When we consider this matter, it is readily understood that the eggs, being turned twice every 24 hours, the cold eggs from the outside chill the others, as, in turning, the eggs are moved outwards and inwards, and from the second to the fourteenth day many chickens die in the shell in badly-made nests.

When the eggs are set in a well-made nest, the hay prevents this, and the soil becomes warm through the continual heat of the hen's body, so that there is not only heat on the top of the eggs, but some underneath from the soil, and the chicks will be hatched in from 8 to 15 hours if the nest is properly made. We have generally averaged 14 chickens to each brood when we set our own hens.

Some hens do not care to sit in a strange nest, and the only thing to be done with them is to patiently quieten them. This can be accomplished by taking the bird and letting her stand in front of the nest, holding her in front of the breast by one hand, and stroking her gently with the other from head to tail, just as one would stroke a cat or dog; then place the left hand in the same position as the right one, with which the bird was held, and draw the fingers of the right hand underneath the beak and down the neck. No other treatment will quieten broody hens so much as this.

Hens which have travelled a journey, or been removed, should be put into a coop, fed with hard corn and water, and then be placed on the nest like this in the evening and covered in, so that they are partly in the dark. They should be allowed to remain on the nest all the next day, and be taken

off the day after. This ensures that they will be well settled down before being disturbed.

For the first few days they should be fed in a coop or other small place, otherwise they are likely to become very wild, and will not go back to the nest. Broody hens should be handled very gently, and when they are being fed it is wise to put the coop so that the hen may see her nest with the eggs in it, as after she has finished feeding she will go straight on again.

When the nest is made without soil or turf, the outer skin of the egg becomes very dry during the last week of incubation, and the chickens usually hatch out badly, and frequently half of them do not crack the shell. To avoid this it is better to moisten the eggs slightly, by dipping them into warm water during the last few days, and replacing them in the nest just as they have been dipped in the water.

Should the hen break one of the eggs, the contents should be removed immediately, and if any portion of the yolk, etc., is on the other eggs, it should be washed off with warm water at once. If very much soiled, a small nail brush and a little soap should be used, and the eggs thoroughly rinsed to cleanse them, as when the contents of one egg are allowed to dry on the shell of another, the pores in the shell will be stopped, thus preventing the passage of air to the chick, which, it must be understood, is alive and breathing at least two days before it is hatched.

The sitting hen should be lifted off the nest every morning, and about the third morning she will rise up ready to be lifted off when the attendant goes to her.

Care must be used in lifting the hen, and this is best done

by placing a hand under each wing, to make quite sure no eggs are lodged there; then take hold of the legs with the fingers, and raise steadily, letting the wings rest on the wrists.

It is well to put a few eggs into the nest, and then place the hen on it legs first, smoothing down the feathers at the same time by putting one hand under the breast, and stroking the back and breast, so as to make her feel comfortable, and the hen will settle down to her eggs almost at once. However wild she may be, it will make all the difference, even a hen that is not broody will sit for a few minutes, if stroked down in this way.

Great care should be taken to see that the hens eat every morning. Indian corn and barley are the best grains, as they promote warmth, and broody hens must be well fed, heat causing the development of the chick in the shell. It is often found that where the eggs grow cold the chickens either die in the shell, or are greatly delayed in hatching.

If hatching is done with an incubator, great care must be taken to keep the machine up to the proper heat.

When hens sit close people think all is well, but it is most important that they should be attended to properly, and a good feed of hemp seed will do wonders for a sitting hen, as it is both heat-producing and nutritious.

Sitting hens will frequently have diarrhœa, and thus get out of condition and lose a great deal of heat. When this is the case half a teaspoonful of ordinary chalk, a quarter-teaspoonful of roup powder, and two teaspoonfuls of ordinary meal, mixed into pills, and put down the hen's throat, will stop the diarrhœa, and the roup powder being a strong

tonic, the following day, as a rule, the hen will eat a good meal.

A hen should be taken off every day for about ten minutes, or a little longer, or, say, fifteen minutes in ordinary weather, up to about the fourteenth day. If it is not frosty, about twenty, or even thirty or thirty-five minutes is not too long. It will not hurt the chickens—they will be all the better. Eggs are porous, and must have plenty of fresh air if the chicks are to be strong and healthy. In spring and summer a hen should be allowed off at least an hour after she has been sitting thirteen or fourteen days, and all sitting hens should have clean, fresh water to drink, and a nice dust bath—cinder ashes, or dry earth and wood ashes, if procurable, and a very little lime mixed with it.

The hens look for the dust bath before their breakfast, and the first morning they should be lifted off, feeling to see if all the eggs are clear, then place the hands under so that the wings rest one on each wrist, and cover up the nest. Something should be nailed up in front, such as a thin biscuit bag, which will allow both light and air to the hens, and they are more contented.

A supply of dust and ashes must be kept in a dry place for the hen to clean herself with, and food and water must, of course, be placed so that she may help herself. As sitting hens go a long time between each meal, it is necessary to feed them on grain only, maize and barley being given in cold weather, and wheat and barley in milder weather, as this lasts much longer than soft food.

Sometimes a hen will lose her appetite when sitting; if this should occur, give her a little hemp-seed, soaked bread,

and pieces of meat. She must be tempted to eat these, as if she does not eat well, she cannot sit her time, and the whole sitting of eggs will consequently be spoiled.

A bird which is removed should never be allowed her freedom, and if not wanted at once, she should be put in a coop, with dry dust, as hens cannot find their way back in a strange place, therefore it is much better not to allow them out, or they must be carried back.

We wish to point out especially to novices that they should test the eggs. An unfertile egg is a clear one. An addled egg is one which has germinated, but in which the germ has failed and died, it may be thirty hours, or, as long as the fourteenth day, these two periods being the times when the eggs generally fail.

The best method of testing is to take the eggs between the thumb and finger at the points, and just hold up before a candle, so that the light shines through. A white egg should be tested on the seventh day, and a brown egg on the eighth or ninth, as these latter are not so easy to distinguish, the shell being darker.

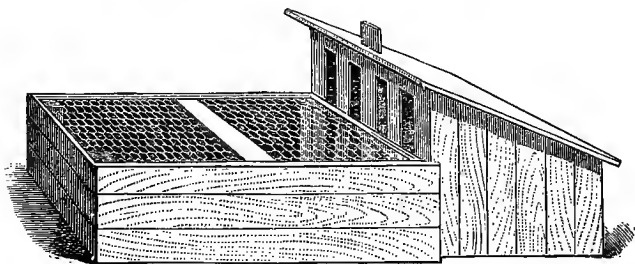
When an egg is fertile, and the chick is alive, a little brown speck, about as big as a pea, will be seen near the surface of the shell at the top, and if that cannot be seen distinctly, the eggs should be marked on the end, and tested again three days later, as at this period the spot is as large as a shilling, and its surroundings very cloudy.

When several hens are set together, it is very easy to put all the fertile ones under any hen; and those without eggs should be given fresh eggs, which should be dated, so as not to confuse the keeping of a record of hatching.

Many novices fail in producing early chickens, and even those who have had some experience have an occasional failure, for the simple reason that they have not sufficiently cared for the sitting hens, as hens want great care in feeding and regular management.

COOPS FOR CHICKENS.

For the early part of the season, coops with bottoms in are to be preferred to those without, as cramp is prevented



SMALL CHICKEN COOP AND RUN.

to a great extent, as the damp cannot strike up to the chickens' legs. In the summer months coops without bottoms are to be preferred. In order to meet the requirements of poultry-keepers, who do not want to have two sets of coops, we make bottoms which fit tightly to the coops for the winter months, and then can be removed in warmer weather. The bottoms of the coops should be covered with moss peat dust. This is so much finer than the ordinary moss peat. The floor of the inner chamber of the foster mother should also be covered with peat dust to the depth of one inch.

The question of the best kind of coop for chicken rearing must be considered. The ordinary chicken coop, made with a slanting roof sloping towards the back, and with bars in the front, answers every requirement. Match-boards ($\frac{3}{4}$ -inch) should be used, as the coops made of this are most durable. A coop two feet square is large enough for an averaged-sized hen, although some prefer to make them two feet six inches square. The weight should always be taken into consideration. A six-inch board should be nailed along the top of the front part of the coop, and the pins or bars should run from this to the ground, and not crossways. The bars should be about two and a-half or two and three-quarter inches apart, so as to give the chicks plenty of room to get through. The two centre bars should be made movable, to slide up and down, so that the hen can be put in the coop without difficulty. To make the coops durable, a piece of roofing felt should be tacked on the roof.

COVERED RUNS.

We believe very strongly in providing a small run to each coop. For an inexpensive arrangement this may be made of two thin nine-inch boards round the two sides and the one end, with fine wire netting on the top. By making the run thus, the sides provide a good protection against the wind and cold, and also prevent depredations by cats, while the wire netting top allows of plenty of fresh air for the occupants, and in wet weather a couple of thin sacks can be thrown over the wire-netting top. If the boards round the small runs and coops receive a coat of tar each spring, they will be preserved for a long time, and the coops will be water-tight.

The best coop and run for rearing chickens in is the combined coop and run—for which we obtained the bronze medal at the Dairy Show in 1905—which has been used with capital results by poultry-keepers in all parts of the country; and as it is so substantially made, and lasts for many years, it is an excellent investment at the price charged for it.

COOPING THE HENS.

It is better to keep the hen cooped throughout the period of chicken rearing than to allow her her liberty, save in exceptional cases. When hens are allowed to run about at their own will, they frequently take the chickens into long, wet grass, which is certainly not good for them.

FOODS AND FEEDING.

Chickens do not require food during the first day, as they live on the yolk of the egg, which has only been absorbed into the abdomen through the navel a few hours before the period of hatching. It is not possible to save those chickens which do not absorb the yolk of the egg well before hatching. This generally denotes weakness of some kind in the parent birds. Provided that chickens are bred from healthy stock, it is not a difficult matter to rear them if they have the right kinds of food given to them. Contrary to the advice given by many poultry writers, we should advise our readers to refrain from giving their chickens hard-boiled eggs *ad libitum*.

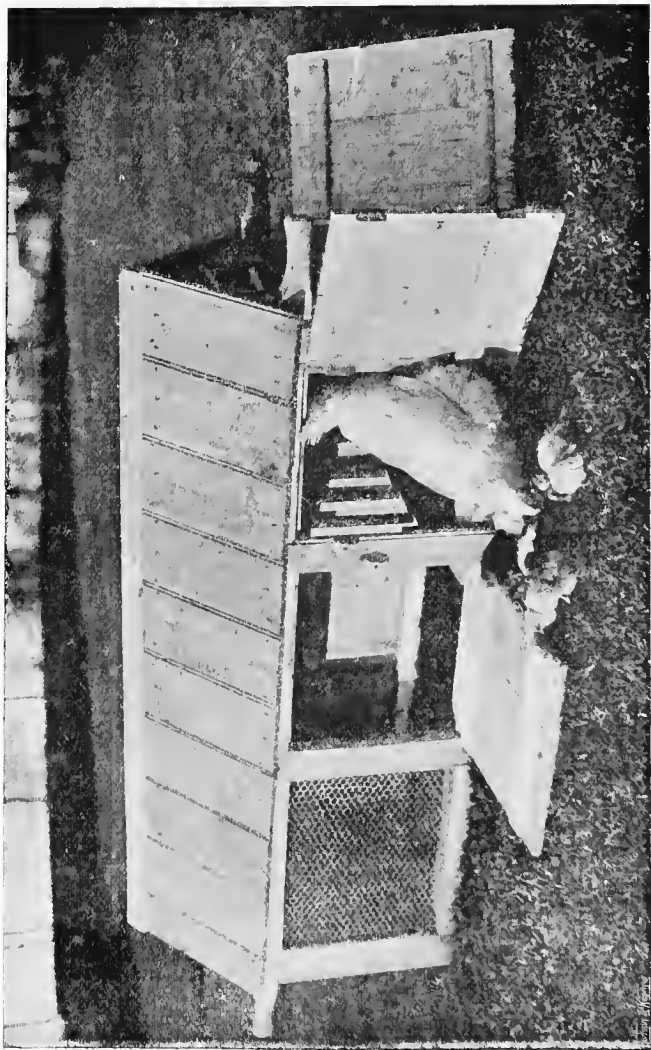
For some years cases have been continually coming under our notice of losses amongst chickens owing to the back passage becoming clogged with dry excrements, thus causing a stoppage. In almost every instance we have traced this to

the use of hard-boiled eggs. Little chickens have delicate intestines, and they are somewhat frail. They require food which is easily digested, and at the same time very nourishing. Chickens fed on fine biscuit meal, which has been scalded, given to them alternately with split groats, for the first few days, and canary seed and wheat (which has been crushed) after that time, will not be troubled with constipation. They will thrive and grow quickly, and should symptoms of this disorder be noticed, they should have a feed of boiled rice given to them, which will quickly correct it.

Some little chickens have diarrhoea rather badly, owing to inherited weakness. The best food for these is a mixture of hard-boiled egg, chopped finely, and fine, scalded, biscuit meal. This makes a perfect combination, as the hard-boiled egg corrects the diarrhoea, and the biscuit meal nourishes the birds. Chickens should be fed every two hours during the daytime until they are three weeks old; and after this five times a day until eight weeks old; and then three or four times a day.

At the age of four weeks it is advisable to give the birds the coarse biscuit meal. The finest chickens are produced by giving a good proportion of Sussex ground oats, combined with the best biscuit meal obtainable. Scotch oatmeal is excellent for feeding chickens on, but it is much more expensive. Size and condition are essential to birds which are being reared for the show-pen, and we have no hesitation in stating that larger chickens can be reared by the liberal use of Sussex ground oats or Scotch oatmeal than on any other foods.

Some writers advocate alternate meals of soft food and



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WILLIAM COOK & SONS' COMBINED COOP & RUN
Awarded Bronze Medal, Dairy Show, 1905.

"Country Life."

hard corn throughout the day, but we find it better to give soft food for the morning meal and during the day, and corn for the two last two feeds at night.

Poultry-keepers should be very careful to give their chickens really good biscuit meal. There are many different makes on the market which are injurious to both fowls and chickens, on account of being baked too much. Chickens fed on this suffer from diarrhoea. Then there are also different biscuit meals which are not baked enough.

Those who carefully study the effect of foods upon their stock are able, by applying the knowledge so gained to its right use, to produce meals which cannot be equalled by those made by people who do not understand or keep fowls at all, but who simply make poultry food to sell. For many years we have manufactured and sold biscuit meal which is considered the finest on the market, and supply it regularly to the largest breeders and exhibitors, who are more than satisfied with it.

Those who rear chickens for table should lay a good foundation by feeding them well. Up to the time they are about seven weeks old it is advisable to give them a liberal supply of fine biscuit meal and Sussex ground oats or Scotch oatmeal, so that a good foundation may be laid towards the size which is so essential to the realisation of good prices for this class of poultry. The most critical periods of a chicken's life are at three and six weeks old, so that by giving them good food until they are past that age, the risk of losses by death are lessened. For a change in soft food the Special meal is excellent. Where a large number are reared, the cost

of feeding can be reduced by varying the suggested foods with middlings of the best quality.

The corn which is used with the most satisfactory results for chicken rearing is wheat of the best quality, combined with dari, French buckwheat, and a small proportion of hemp seed. Always bear in mind that chickens do not need a quantity of food, but they do need the little they have to be of the best possible quality.

Fresh air is excellent for the birds, and we invariably adopt the plan of putting our chicks straight out on our rearing ground a few hours after they are hatched, and find that sharp grit, fresh air, and comfort make the little birds healthy and strong. Protection from the cold winds must be provided by placing the coops back to hedges when the chickens are being reared in the country.

Many people think it is impossible for good strong chickens to be reared in small, confined runs. This idea is entirely a wrong one, as hundreds of good, healthy chickens are reared every year in the back gardens of our towns; and, although it is much better where they can have a good run, yet with careful attention it is surprising how much may be done in the way of producing birds, even in confinement.

Poultry-keepers in the country who are hatching chickens early in the season are tempted to place them in their greenhouse, thinking that the little birds cannot stand the exposure of outdoor rearing, but in this they make a great mistake, as many die, and those which are reared under these conditions are frequently found delicate, and do not grow into strong, healthy birds at all.

ARTIFICIAL INCUBATION.

This system of hatching has made much progress during recent years, although it is in principle almost as old as history itself. It was never so much in vogue in the United Kingdom until the new management and improved incubators made it necessary and possible.

Artificial incubation was practised in Egypt and China in ages past, in crude, although none the less effective, forms.

Poultry-breeding has so developed during the last fifteen years that it has become impossible, on many farms, to secure sufficient broody hens for getting early chickens, so that when the public find they have a reliable incubator, they have taken them up with pleasure. There are machines which have not sufficient moisture in them, and in others there is too much.

Then the position of the machine often is not chosen with care. Incubators should always be put in a quiet place, where there is plenty of ventilation allowed in the building, and when the eggs are turned the drawer should be taken right out; even if it is out of doors and cold, it is better to do this, and it will not hurt the eggs, as the more air that gets to the eggs the stronger the little things hatch out, and yet many people fear the results of cold so much that they will stop up every crack in their incubator house. Even the opening of the top of the window will help matters, as good ventilation is most essential.

Dipping each egg in warm water the last days of incubation greatly assists the hatching of the young birds. Chickens will hatch out without this, but it is a safe thing to damp the eggs in this way.

Correct and all necessary instructions are generally sent

out with each machine, so that readers will, of course, be guided by these in all the management of details of working.

We have met with scores of people who have bought incubators and have placed eggs in them, and nearly every egg they have put in during the season has been spoiled, and in some cases we have known of the machine being burned up in despair, as not a single chicken has been hatched during the whole of the season.

In such cases as these it is not only the sacrifice of the first cost of the incubator, but the loss of precious time, so that the season has grown advanced oftentimes that birds for the next season's egg production are out of the question, and so a whole season is wasted, and there are no pullets for laying, neither fowls for the table.

We have no wish to be hard on incubator makers, but several have been brought out and many machines sold, from which not a single chicken has been hatched, and we only mention this to warn poultry people against buying machines turned out by makers who have no reputation to maintain.

In cases where fresh eggs are put into the drawer with others that have been in long enough to get nicely warm, a piece of flannel or cotton-wool should be put between them, as the cold eggs are apt to chill the others, especially if they have only been in a few days, or, better still, they may be put into the drying box for 12 or 15 hours to take the chill off. When eggs are in the incubator which are near hatching it does not hurt them.

It will be seen, therefore, that a really good incubator is a great boon to poultry-keepers, and although some people

indulge in a silly superstition that chickens hatched in an incubator do not grow so large, or do as well, it has been proved beyond all controversy that the birds do equally well if of the same stock and reared under the same conditions.

Another point must be borne in mind, and that is that incubator-hatched chickens are not so liable to become infested with vermin as those hatched under hens. Hens are often found to be infested with vermin, while sitting, and the chickens are consequently attacked by these terrible pests as soon as they are hatched, if proper care is not taken to dust the hen thoroughly with the insect powder, specially prepared for this purpose.

There are certainly more crippled chicks hatched with incubators than when a hen is used, but no chickens are killed by the incubator, as there are oftentimes when the hen tramples upon them, so one makes up for the other very evenly.

Incubators are a great convenience to the poultry-keeper as they save a lot of time, can be worked at any period during the year, and very many enjoy working them, and attending to them.

Where a new incubator is purchased, it is better to test the machine by putting a few common eggs in, as this very frequently saves considerable disappointment with a new machine, as it very often takes a few days to get them into working order.

INSECTS ON CHICKENS.

It is most essential to the well-being of chickens that they be kept perfectly free from insects, for, unless this is done, they cannot thrive. When insects are found on the birds, they

should be destroyed without delay by dusting with a good insect powder, which will very quickly destroy the pests.

SHARP GRIT.

The importance of sharp grit for young chickens cannot be over-estimated. The author of the previous editions of this book was the first to point out the value of sharp grit in the rearing of chickens, and has been followed in this respect by all the writers on the subject. The birds should have a feeding-board in their small run, placed out of the reach of the hen. This board should be kept perfectly clean, any loose dust which may fall on it being wiped off. Before throwing the soft food on the board, some fine flint grit should be scattered on it, then the food and grit are swallowed together, and the birds are supplied with the sharp grit without which they cannot thrive. Care should be taken to see that the grit, although fine, is sharp. Sand or fine gravel will not answer the purpose.

NETTLES FOR CHICKENS.

Nettles can, with advantage, be used freely during the summer months. They should be boiled, or have boiling water poured over them, and be covered down in the steam, then mix the meal with the water.

When the weather is very hot, chickens can have a double portion of sulphur in their soft food; one heaped-up teaspoonful to ten or twelve chickens, from a month to six weeks old, and proportionately to age, also using a little salt at the same time. Sulphur can be given with safety during the hot weather; but should it relax them, a little

ground ginger should be given—about half a teaspoonful to one of sulphur.

No one should attempt to rear chickens or feed fowls on inferior corn of any kind. The best is always the cheapest in the end, and corn chandlers will soon get better samples when they find their customers will not be put off with rubbish. Poultry-keepers should see that the corn is of a good size, and has no holes in it. If a few kernels look dark, crush them with a hammer; it will then soon be seen why the poultry have not done well, resulting in the balance being on the wrong side of the sheet.

In addition to chickens having the best quality meal and grain, they should have an abundant supply of green food—especially in the hot weather. They will eat almost every kind of green food that can be obtained; cabbage, lettuce leaves, grass, etc. The latter should never be given to them long, as, if so, it is liable to cause a stoppage, and the chickens will become crop-bound, so it should always be cut up finely. Chickens over a fortnight old can have that which is cut by a garden mower with the greatest safety.

Dandelions are among the best that can be given, and especially if the chickens are a little out of sorts. They should be cut up very fine, and the chickens will greatly enjoy them.

Watercress is excellent for chickens, but when it has to be purchased, is rather expensive. When fowls or chickens are short of green food, they will eat rhubarb leaves, if cut up, and these will do them a great deal of good.

For little chickens, freshly-cut mustard and cress is excellent. This is easily grown by placing several shallow

wooden boxes, filled with mould, in which the seeds should be sown, and placed in the kitchen or scullery, where there is a little heat and yet plenty of light. When the chicks have turned a fortnight old, they relish the freshly-cut cress very much.

THE IMPORTANCE OF BONE MEAL OR FLINT DUST.

It is not unusual to have some of the chickens lose the use of their legs. These are generally the largest of the brood, and they suffer on account of having overgrown their strength. To prevent this, the chickens should have bone meal, or flint dust, mixed in their soft food twice a week after they are a month old. Many people advocate the use of green bone meal, but we have known a number of cases in which disease has been spread by this. It is far better to use flint dust, to save the expense of bone meal, as it is cheaper and equally effective, or, when bone meal is preferred (owing to the belief of its being better), care should be taken to procure that which is properly ground, and does not contain splinters to injure the birds' gizzards, and is guaranteed to be bone-forming meal, which is what young chickens require.

TO PREVENT COLDS.

Poultry-keepers who wish to rear their chickens without loss from roup should avoid it by giving them a little of the roup powder in their soft food twice or three times a week. One teaspoonful is sufficient for twenty chickens from one to three months old. The roup powder not only prevents colds, but acts as a tonic also.

CRAMP IN CHICKENS.

As soon as chickens show the first symptoms of cramp it is well to catch them at once, and rub their legs with a little turpentine, or, in bad cases, spirits of arnica. This will soak in very quickly, and then a little vaseline should be rubbed on the legs and feet, as this supple them and makes them nice and pliable. After that the legs should be wrapped in cotton wool, to keep them warm, and the blood will soon circulate quite freely again.

Where chickens are kept under glass after they are a fortnight old, they are very subject to cramp and other diseases, and, indeed, it is not good for chickens to be kept under glass at all. They should have their full liberty, if possible, however cold the weather.

There are cases where chickens are hatched with their toes turned under, and when this is the case the splints should be used in the same way, provided the legs are not actually deformed in shape.

To apply splints, the feet and legs should be rubbed with turpentine, after which a little vaseline should be applied, and a piece of stick should be obtained with three prongs, the same shape as the chicken's foot. The toes should be bound round with cotton wadding, and each toe strapped with wool or worsted separately to a prong of the stick, the chicken being put in a box on wool or flannel, and kept warm for a few hours. If very bad, they should be kept away from the hen for a few days, but should be put under at night, being removed first thing in the morning and replaced in the box, which should be set against the fire. When the wood cannot be obtained, get a piece of cardboard. Wrap

the whole of the leg and each toe in cotton wool, place the latter on the cardboard, and sew them separately on to it with worsted, putting the stitches over the toe and through the cardboard, so that they cannot be moved. We have known them quite cured, when taken in time, in from 24 to 36 hours.

Some chickens never get over cramp, but are always shaky on their feet. These should be killed for table, and not kept for stock birds. Cramp in chickens is usually caused by their being kept on hard floors, either boards or flagstones. It comes on through imperfect circulation, which causes the blood to get chilled as it passes through the legs and feet, so that these points are attacked first.

PIPPING.

Occasionally poultry-keepers are troubled on account of their chickens not thriving as they should. Now and then they live on for several months, and yet do not thrive or grow, although anything that is essential to their well-being has not been overlooked. Various causes are suggested, and frequently the stock birds come in for a good share of the blame when a very simple attention would put everything right.

A good many chickens have on the end of their tongue a small scale, which fastens itself on to the tongue, and needs removal in early chickenhood. This process is called "pipping," and although we have heard the opinion expressed that all chickens require "pipping," this is not really the case, as a larger number of chickens are free from the scale on the tongue than those which have it.

As it is not an infrequent thing, it would be well for every-

one who has chickens to carefully examine their tongues, and see if they are free from this small scale, which is removed by inserting the finger-nail of the first finger under one side of it, then with that finger and the thumb the scale can be easily peeled off, and will be found to resemble a quill pen-nib in shape and texture. After the removal of the scale the birds thrive wonderfully, and the difference is quickly noticed.





DISEASES IN POULTRY.

FOWLS are not subject to many diseases, and these, with one exception—that of enteritis—are easily cured when taken in time, as, unless this is done, the strength necessary to a speedy recovery is lost before treatment is commenced, thus handicapping the birds' progress considerably in many cases, and resulting in death in others. Preventive measures should be understood by everyone who keeps fowls—even if the number of these is restricted to half a dozen—because a simple dose of castor oil and the judicious use of a little roup powder will, in nine out of every ten cases, restore the bird to health in the course of a couple of days, and all risk of any further outbreak avoided. It is impossible to prevent the appearance of a slight cold, either in the form of a discharge from the nostrils, or sneezing accompanied by a discharge from the beak, and, it may be, a swelled head, on account of the particularly variable climate, and the varying temperatures to which the birds are subject; but with the possession of the knowledge that by the prompt administering of the simple dose of castor oil, the birds are restored to health, there is no occasion for any alarm being felt by the most doubtful of poultry-keepers.

There are, however, many seemingly trivial ways of keeping the birds in health, and those who have been initiated into the routine of the discreet poultry-keepers' methods, know the value of these small things; and it would be well for all who keep fowls, and who want to make them a success—and who does not?—to acquire this knowledge. These small attentions to detail do not take long, and yet are very conducive to success. When fresh birds are purchased it is an excellent plan to keep them in quarantine for a couple of days, before placing them with the other stock, as there are a good many fowls which contract slight colds on a railway journey, and for the want of close observation these colds develop into a mild form of roup, and this frequently spreads among the other birds before it is noticed. Many fine birds have been lost in this way. A careful poultry-keeper will go into the fowl-house now and then in the evening to see if the birds are all right, as their exact condition can be observed when on the perch.

Should the bird be breathing hard, a teaspoonful of warmed glycerine, followed by one of salad oil, should be given at once, as this treatment will ease them in a short time.

To administer medicine the fowl should be held under the left arm, in a position so that the feet cannot have any bearing, otherwise fluids cannot be easily given; or the bird can be held between the operator's legs, with the fowl's body resting on its thighs, the legs hanging down so that they cannot catch against anything; then give two roup pills, and on an average fifteen birds out of every twenty will be well in from three to seven days, if treated when the first symptoms appear.

Should the rattling in the throat be very severe, and the breathing hard, the lungs should be painted with tincture of arnica.

There is a place free from feathers just under each wing, which cover the lungs, and this spot should be painted over. The exact place to apply the arnica can be easily detected if the bird is watched as it breathes, as the motion of the lungs can be seen when the wings are held up. The arnica will soon give the bird relief, and ease the breathing very much.

Stewed linseed is very strengthening to a sick bird. To stew the linseed, place same in a saucepan, more than covering it with cold water, and put over a slow fire, so that it does not boil but just simmer for half an hour. The linseed should be given as warm as the fowl can take it. A hen may take from three to six teaspoonfuls; a cock seven to ten, and if more is given it will not hurt them.

Every poultry-keeper should have a small medicine cupboard—an ordinary wooden box with a door to it will answer, if it is just fastened on the wall within easy reach. In this cupboard a few simple remedies should be kept, as it is generally the first few doses which do the birds the most good—and when these doses are given as soon as the fowls are ailing, further treatment is rarely required.

In the medicine cupboard there should be a tin of roup powder, a tin containing Epsom salts, another of linseed, a small jar of vaseline, and several bottles, containing—(1) castor oil; (2) glycerine; (3) salad oil; (4) tincture of iodine; (5) tincture of arnica; (6) camphorated oil; (7) liquid or a tin of crystals of permanganate of potash (disinfectant); (8) a bottle of roup lotion.

With these, all ordinary ailments can be successfully treated; as for a slight cold, the treatment we have advised is quite successful; and when birds have their combs frost-bitten, a few external applications of camphorated oil, and some pellets made of middlings in which roup powder has been mixed (a teaspoonful for every three birds) will soon put them right. In cases of birds which have been fighting, the combs and faces should be washed and then wiped dry, and then vaseline applied. Carbolised vaseline answers better than the ordinary kind for this purpose. Should there be any smaller spots found, paint at once with the liquid disinfectant.

When birds are over-heated, a dose of a teaspoonful of warmed castor oil is most effective. In all cases of ailing fowls, castor oil is advisable, as this cleanses the system of any obstruction, and is frequently the means of preventing further illness.

On cold mornings, roup powder should be added to the food instead of poultry powder; and any cases of birds with running at the nostrils should not be neglected; but the nostrils wiped dry and a feather dipped in paraffin passed up each nostril without delay.

A bundle of wing feathers should always be kept by those who have fowls, and when any are killed the pointed feathers if tied into a bundle are ready for use in case there are those which require treatment of mucus in the throat or discharge from the nostrils.

A few crystals of permanganate of potash dissolved in water, and used to cleanse the throats of the birds, answers

well when the mucus is thin and watery; but when it is thicker the roup lotion should always be used.

One of the results of in-breeding and mismanagement among fowls is consumption in the chickens. There may often be noticed two or three chickens moping about with long beaks and pale faces, while their wings appear too long for their bodies, drooping to the ground, and the birds appear to be too weak to stand.

This condition is frequently due to want of fresh blood in the poultry yard. If taken in time, the chickens may recover; but as they are seldom much good, and take up the room of healthy birds, it is the wisest plan to kill them at once, as it saves much time and trouble. Cod-liver oil is the best thing to use for those desiring to try and effect a cure—quantity, a quarter of a teaspoonful for a chicken six weeks old, and so on in proportion.

When fowls have diarrhoea they must be treated at once. The cause of this cannot always be traced, as it arises from various circumstances. Sometimes it is an ailment in itself, and at others it is a symptom of some other disorder.

When fowls are short of sharp grit, their liver does not act properly, and this brings on diarrhoea. Very often the birds will swallow pieces of glass, stone, or coal, and the inlet in the gizzard being about three times the size of the outlet, frequently these hard materials will get through the inlet, but remain at the outlet and cause a stoppage, and the husks of the corn get matted together into a hard mass, which is often difficult and well-nigh impossible to disperse.

This causes violent diarrhoea, which frequently proves fatal. It is always safe to give fowls warmed castor oil in

such cases. A teaspoonful and a half for a hen, and two teaspoonfuls for a cock, would not hurt them, and often is the means of saving their lives. Their excrements are of a yellowish colour when this is the case.

If fowls are fed irregularly (*i.e.*, half starved one day, and the next a quantity of food allowed to lie by them), and also kept short of water, they become very thirsty, and then, when they have the opportunity, they drink a large quantity of water. This not only brings on diarrhoea, but also ruptures their crops.

If this complaint is not stopped the birds become very thirsty, and lose their appetite, and their plumage looks rough. At the same time they move about very stiffly, as though hurt in some way.

Broody hens are very subject to this complaint, as they usually drink too much water, and do not have sufficient grit to digest their food. When a hen leaves her nest owing to weakness from this cause, there is not only the loss of the hen, but also the eggs, and disappointment at losing the prospect of chickens, for the want of knowing how to treat the birds, which should be fed on dry rice and maize.

To cure diarrhoea in fowls the birds should each have one heaped-up teaspoonful of powdered chalk, and half ditto of ground ginger. In addition to this, we give a quarter of a teaspoonful of roup powder a few hours after to each adult bird. We have not known this remedy fail yet. It is seldom it has to be repeated, unless the fowls are very much out of order.

When their appetites are good the ginger, etc., should be mixed in the soft food; but if they are not eating, some pills

should be made, using some baked flour. Frequently when the birds are neglected, dysentery sets in. In this case, give about five drops of chlorodyne for a hen and seven for a cock. It is best given on a piece of loaf sugar. A teaspoonful of tepid water should be given afterwards.

When fowls have diarrhoea it generally leaves them in a weak state, and they require not only a tonic, but also a stimulant. The roup powder will be found one of the best things to get the fowl's strength up again. For a few days the patient should not have much corn, but chiefly soft food. A little corn should be given, as this is not digested so quickly and it helps to stay the birds.

We have not found the chalk and ginger fail for young chickens. A brood of ten, from a fortnight or three weeks old, can have about the same quantity as prescribed for a hen, and so on according to age. Should they have an overdose it will not hurt them.

It is now necessary to deal with the different diseases to which fowls are subject, in order that those who have had no experience may know exactly how to proceed when they see their birds are ailing, and will, furthermore, be able to recognise from the symptoms shown by their fowls what they are suffering from, and then proceed to alter anything in the management or conditions under which the birds are kept which may have combined to cause the ailment, as when this has been discovered, preventive measures against further outbreaks can be adopted with ease. The principal disease to which fowls are subject is

ROUP.

This complaint is generally brought on by cold, or a sud-

den chill of the blood, due to very hot days and cold nights ; or sitting in a draught when the fowls have not been used to it ; or the ventilator being left so that there is a draught through the house ; or sleeping out of doors one night and in a nice warm house the next.

When fowls are accustomed to sleep in trees, and are put straight into a warm house, or put in a covered basket and sent on a railway journey—especially when sent to a show—after sleeping in a cool house, they are almost sure to return with roup.

When poultry are travelling by rail, and have to stand for hours on a draughty platform—especially when coming home from a show—after having been taken out of a crowded place, where it has been very hot, then being allowed by the railway officials to stand for hours in the middle of the night, they are almost sure to get roup.

When those who commence to keep fowls realise the advantage to be gained by the attention to first-aid remedies for the common ailments of their birds, it will be a saving of time and money, and prevent suffering to their stock. The English climate is so changeable that it is invariably found to be necessary for those who have anything to do with stock of any class to be capable of dealing with the first effects of chills contracted through a sudden fall of the barometer.

WET ROUP.

The most simple form of roup is that known amongst experienced poultry-keepers as wet roup.

When a fowl first catches cold, and the system is in good order, the first symptom of this form of the disease which

appears is a slight running at the nostrils. At first the discharge is clear water, but, if neglected, it usually develops into a more virulent form. When not taken in time, and treated properly, the fowl soon begins to cough and sneeze.

The running from the nostrils may last for a long time. We have known it to continue for three months, and not cause the birds to be really ill, when they have been subjected to a chill while in good health. This discharge from the nostrils goes harder with chickens than with old hens, and if they do not get good attention it stops their growth.

When the first symptoms appear, the bird should be examined to see if the mouth and throat are free from white spots or ulcers, and from rattling noise in the throat. The nostrils should be washed with the roup lotion.

It is well also to dip a feather in the lotion and put down the throat. One heaped-up teaspoonful of roup powder should be given to every eight full-grown fowls, and to the young birds in proportion.

Should the birds object to eat it, then mix it with about two handfuls of meal, and throw down a small piece at a time. By this mode of feeding they will usually all run after one piece and swallow it before they taste it. Should they refuse to eat it when given in this way, it must be given in pellets, as will be seen further on. As a rule, there is no difficulty in getting them to take it.

When there is only a running at the nostrils, and no offensive smell, they may be allowed to run with the other fowls without any danger of infecting them. When this cold is neglected there is in a few days a very offensive smell from the fowl's breath, and a discharge from the nostrils dried on all

round the outside, often preventing them from breathing; also thick saliva in the mouth, which if not stopped soon turns to a thick mucus and corrodes very fast, spreads down the throat, and causes the fowls to breathe very hard.

DIPHTHERIC ROUP.

The distinguishing feature of this is the formation of a thick cheesy matter, which forms on the tongue, mouth, and down the throat, where the food passes. It grows very fast, so much so that in bad cases the tongue is forced out of the mouth, and they appear to be swallowing all the time.

In a few cases the mouth is clear to all appearances, the fowls seem quite healthy, and look well up to the hour of their death, and the only symptoms observable are the opening of the mouth to breathe, and the effort of trying to eject something from their mouth, but in vain, because the matter has collected down the windpipe and in the tubes.

In some cases a swelling comes at the side of the face, and in from six to twelve hours one eye is closed. Such cases should be isolated at once, being placed in a large coop or outbuilding where it is fairly warm, and the face bathed with a solution of permanganate of potash and water, and then wiped quite dry.

The fowl should be caught, and a helper obtained to hold its mouth open. The trachea should then be worked up and down outside with the thumb and finger. Hold the fowl's mouth wide open, otherwise the opening of the trachea cannot be seen. When the head is held quite still for a few seconds it will be seen when the bird breathes. Then dip a feather in the roup lotion, but do not in this case strip

the feather, as then it can be well saturated with the lotion. A wing feather will be found the best, as it is pointed.

As the opening to the windpipe is small, great care must be taken to put the feather down it, and not the throat or swallow. It should be put down three or four inches, and after having been twisted round two or three times, it should be gently withdrawn, and, in most cases, little pieces of fungus will be seen adhering to the feather—a kind of whitish-yellow matter, which crumbles like cheese.

Always saturate the spots of mucus (which can be seen at the top of the trachea) with the lotion, using a feather; then the matter can be removed with the quill. In most cases it peels off easily at the time; if not, it will do so the following morning. Sometimes the place bleeds when the matter is removed, but it soon heals over. Should it grow again, the same treatment must be adopted as before, and it will gradually get better.

Care should be taken to burn all the feathers used in this operation, and a feather should only be inserted once, and then burnt. This may prevent the disease spreading. After the lotion has been used, a few drops of glycerine should be poured down the bird's throat.

Sometimes this scrofulous matter forms on the side of the mouth, and in some cases it forces the mouth out so much that from the outside it looks like a swelling. When it assumes this form the lotion should be used in the same way, but more will be required.

Occasionally it is necessary for a few drops to be put in the hole made by the removal of the fungus. In such cases the glycerine, as previously mentioned, is very useful.

When the disease appears in the form we have here mentioned, the birds do not have the running at the nostrils. It frequently stops their laying, but only in very bad cases does it appear to injure their health; yet, if neglected, the fowls will assuredly die.

The birds which are suffering from this form of roup should have a dose of aperient medicine every other day. Rather less than a teaspoonful of warm castor oil should be given to each bird, followed by a good teaspoonful of salad oil. They should have roup powder regularly twice a day—viz., morning and night, in some meal.

In bad cases we prefer the pills made from roup powder. For one hen, mix half a teaspoonful of roup powder (if very bad, three-quarters may be given), one heaped-up teaspoonful of flour, one and a-half of fine oatmeal, and a little piece of fat (about a quarter of a teaspoonful of dripping, lard, or butter will do), and a little hot water, just sufficient to make it into a paste. For a cock, three-quarters of a teaspoonful of the powder may be given. If the fowls are very bad, this quantity should be given twice a day, especially the first day. If the fowls cannot eat any food—that is, if they do not pick it up for themselves—then an extra quantity of meal and flour may be used to keep the fowl's strength up.

We usually make the pellets the size of the little finger up to the second joint. When the fowls do not appear to swallow them very easily, they should be worked down the neck with the thumb and finger. Should they be blind in both eyes, they ought to have a little water given to them with a teaspoon.

EYE ROUP.

The third form is called eye-roup, and shows itself in quite a different manner, viz., with a swelling in the face and round the eyes. The first symptom which appears in this form is a quantity of white foam which gathers in the corner of the eye. Sometimes the fowl's nostrils are quite dry, and at other times there is a slight discharge, with an offensive smell.

In the course of twelve hours the fowl's face is so much swollen that the eye gets completely hidden. The face should be bathed at once with very warm water, in which some permanganate of potash has been dissolved, using a sponge or soft piece of flannel. After bathing it well, wipe the face quite dry, for unless this is done, the bathing will be apt to do more harm than good, as the fowl will catch a fresh cold.

A few camomile flowers well boiled in water, and the decoction used for the bathing, is also an excellent remedy. After wiping quite dry, rub a little lotion on the swollen part, which not only helps to draw the humour out of the face, but prevents the cold from striking the tender parts of it. Keep the fowl out of the draught, and yet give it plenty of air in a fairly warm place, but not a heated one, unless the weather is very severe and the fowls require warmth.

A fruitful cause of this disease is over-heating of the blood; and this, be it remembered, is quite as bad as a chill.

Where many fowls are kept, and contagious disease breaks out in a bad form, it is the best plan to promptly kill the first bird that is attacked, as the first loss is often the least; but if there are not many kept, and the owner has time at his

disposal to deal with the first cases resolutely, the task will be easy.

When they are recovering, they should be hardened off a little at the time, first put in a snug out-house, then in an open shed. The first time they are allowed to go into the pen should be in the middle of the day; if not, they may take cold again.

Sometimes the swelling of the face does not go down, or only partly so, but becomes much harder, a small, hard lump forming under the skin. It is much the same as that found in the mouth and windpipe, only it is of a harder substance, and smells much worse.

If it is just round the eye, the fowls usually lose their sight. Turkeys are very subject to this. There are some fowls which get over it fairly well, if the scrofula does not spread under the eye. When the hard substance begins to form round the eye, the fowl should be killed, unless very valuable.

When the birds are breathing hard, give a teaspoonful of glycerine an hour or two after the oil. Should the rattling in the throat be very bad, dip a feather in glycerine and put it down the windpipe. The fowl may be distressed for a few minutes, but this will probably help the breathing after. A little green rue is very valuable in such cases. This may be difficult to obtain; but linseed is within the reach of everyone.

This should be put into cold water, and placed over a slow fire, so that it does not boil fast, but just simmer for half an hour. If a little lemon juice can be added, so much

the better. Give the linseed as warm as the fowl can take it. A hen may have six teaspoonfuls; a cock eight or ten.

The bird should be held under the left arm, as explained earlier in this chapter.

A piece of camphor about the size of a pea may be given after the linseed; two roup pills also, then fifteen birds out of twenty will be well the next morning, if treated when the first symptoms appear.

Fowls which are kept on ground that is not fresh are very subject to this disease, and it is essential that plenty of disinfectant powder be scattered about the houses and runs when there is the first appearance of any cases.

LIVER DISEASE.

Large numbers of birds die yearly from this disease, which has primarily two distinct forms with several variations. First, there is the tubercular or scrofulous form, which is usually caused in the first place by in-breeding, and also from breeding year after year from birds without stamina; and then the other form, which is due to derangement of the organ, and generally makes its presence known by the lethargic habits of the birds, as distinct from the great appetite generally shown by fowls which are suffering from the tubercular form. Over-feeding on maize is particularly bad for fowls' livers, and it is most essential they should be fed so that their food is nourishing, but not over-heating to their system, and does not give their digestive organs too much work.

First of all, digestion must be assisted by the use of sharp grit, for without it the birds do not receive the full benefit

of their food, and their organs become overloaded. The liver is first to suffer, and the other organs soon follow, so that very quickly the whole internal organism becomes affected, and in many cases entirely ruined.

When birds begin to go wrong they will not pick up the small stones, etc., in which case all the sharp grit should be mixed with the meal, and forced down their throats. As a rule, they will soon be all right, their aversion to the grit only being the result of their weak condition.

Some people use round shingle, which is sent from the seaside. This material is quite useless, as it is ground so smooth by the action of the waves that it has no sharp edge left to do the work of grinding and masticating the food, for grit, of which chickens always need a good supply, cannot be too sharp.

It is a good plan to give the fowls egg shells; but care must be taken that they are broken up very small before being given to them. If this is not done the benefit gained by the fowls eating the shell—this latter helping them to form the shell for new eggs—is over-shadowed by the risk of egg-eating.

The sharp grit which may be scraped up in the hollows of country roads after a heavy rain is good for poultry. Ordinary road scrapings are also very good for poultry, but the grit we have mentioned is very much the best. Where neither of these can be obtained, flint stones, broken up small, should be given, as grit they must have in one form or another.

White crockery ware or glass can be broken up small and

given to them, the largest of this not exceeding a threepenny piece in size.

Fourteen pounds of grit broken with a hammer out of solid black flints go further than a whole hundredweight of ordinary grit which has been run through an ordinary machine. Sad to say, a great deal of the grit that is sold at the present day is not what it should be, and more than half is as useless as the sea shingle we have condemned in this article—this oftentimes being the shingle run through a mill, and called flint. People only waste their money when they invest in such stuff, which is sold at a cheaper rate. Anything cheap attracts a certain class of very short-sighted people.

A common mistake made by poultry-keepers is that of over-feeding their birds on maize. Too much of this corn is not good for fowls, as it brings on liver disease sooner than anything we know. It makes the birds too fat internally, and also makes blood too fast. Fowls which are fed liberally upon it are lined with yellow fat, especially in the abdomen, sometimes to the thickness of half an inch. The consequence of all this is that the egg organs become so weak that the hens lay their eggs without shells.

These are not the worst effects of feeding on maize, as birds that are so treated are generally in a very weak condition, and so they are susceptible to many other affections and diseases, especially cold and roup.

It is not always liver disease which actually kills them, but through the derangement of that organ, the birds get into such a state that diseases soon lay hold upon them, and overcome

them, because the birds are too weak to withstand the ravages of the disease.

In some instances where we have found cases of roup that have been deemed incurable, we have found, on examination, that the liver was diseased, being full of tuberculous matter, and having white spots upon it. Sometimes these spots are only as large as a pin's head. In most cases where roup has not yielded to treatment, we have found this tuberculous liver existing, and in some instances tumour, the growth of which maize is very likely to stimulate.

In cases where only ordinary scrofula is coming on, tuberculous substances form at first in small yellow spots; and these grow so rapidly oftentimes that in a very short time they are a quarter of an inch through, and the liver becomes more than three times the ordinary size. We have weighed a liver of from nine to eleven ounces, the normal weight being from $1\frac{3}{4}$ to $2\frac{3}{4}$ ounces. Dandelions are invaluable for birds which are suffering from sluggish livers.

When fowls are bred from stock in which there is a tendency to liver disease, even although they are supplied with sharp grit, they frequently suffer from sluggish livers, and this condition is easily discernible by closely watching the fowls' habits. When the liver is really sluggish, they do not show any inclination for scratching about, and in walking there is a tendency to stiffness in the left leg. Immediately these symptoms are noticed, the birds should have a dose of castor oil, and then every morning as much scraped turkish rhubarb as will lie on a threepenny piece should be given in a pellet of meal and boiled dandelion, and the liquid mixed in the soft food, and at midday a pellet in

which roup powder has been mixed given. A continuation of the rhubarb, dandelion and roup powder for fourteen days will restore the birds to a robust condition of health.

Another cause of a great deal of liver disease is in-breeding. More fowls die of this disease than all the others put together. Insufficiency of small grit, feeding on Indian corn, in-breeding and bad ventilation are the four greatest foes to success in poultry yards.

We have known instances where the farmers have used maize for years together, and it has had such a bad effect upon the progeny that scarcely a chicken of all that were hatched lived. Many of them died when from four to seven days old, some living until they were from three to six weeks old.

Fish is a very good thing for stock birds, which are mated for the production of eggs for sitting. When, however, the eggs are to be eaten, this should never be used, for if the eggs are to be sold for eating, consumers will notice the musty and fishy taste, and they will think the eggs are not fresh; and customers will fall off, and, of course, this would be fatal to results.

English people do not cultivate herbs as much as they should for the use of their poultry. Two herbs are most useful in the poultry-yard, but unfortunately they are often trodden under foot and thrown upon the rubbish heap, or are rooted up altogether as most worthless things. We refer to stinging nettles and dandelions. The stinging nettle has cooling properties which make its action upon the blood most beneficial. Fowls do not catch cold after having them, as they do sometimes after sulphur. The nettles should be

gathered when young ; they can be cut short and boiled, and then mixed with the soft food, and the water they are boiled in will also do to mix with their food.

When time cannot be found to boil them, they can be put into a vessel of some kind and boiling water poured over them. They should be covered over so that the steam cannot escape, then the liquid can be mixed with the meal. A little salt added would improve them, but they should never be given to the fowls in an uncooked state, as they are not sufficiently tender in this stage. When given in this way they are both food and medicine. Nettles will often restore fowls to health when their blood is overheated through injudicious feeding, and particularly when they are kept in confined runs.

Where many fowls are kept, it is wise to grow cow cabbage, as this is very large if grown properly ; one is sufficient to last fifty fowls a whole day, and the birds are particularly fond of them.

Mangel wurzel is also very good for them. It is well to cut them in half, then the fowls peck out the whole of the contents, leaving the skin quite empty.

Those who live in towns, and have but little space at their disposal, cannot grow cabbage or lettuce, but they might sow rape, mustard, maize, wheat, barley, oats, or any kind of grain. These can be grown in shallow trays filled with a little earth or manure, and the seed must be well watered. These spring up very quickly. By having seven boxes, and sowing one every day, this gives a daily supply of green food. The maize springs up twice or three times from one sowing. It can be either cut or the box placed in the run

for the fowls to peck it off. The size of the boxes must vary according to the number of fowls kept. Not more than two or three inches of soil is necessary in the boxes.

We should especially point out, in the case of town poultry-keepers, the importance of giving scratching exercise, as on this so much depends. Wherever birds are kept in confined runs, corn should be buried, and the fowls will scratch this up, and be very much better for the exercise.

CONSUMPTION.

This is the disease attended with a formation—generally in the lungs—of that peculiar deposit called tubercle, that ends in destroying the lung tissue, and which is also described as phthisis, and is quite incurable. The symptoms are coughing, wasting away, loss of strength, and results in death. The causes are found in those conditions which lower the stamina of the fowls, although it is possible that, once established, it may become a hereditary disease. In-breeding, poor food, damp and dark coops, are among these causes.

It is not possible to foresee the disease, for even in cases where the fowl is "ailing," it is frequently the case that other disturbances are the cause. It will generally be very undesirable to attempt to save the life of those birds which are thus diseased. The administration of roup powder, cod-liver oil, etc., may be tried. It is suggested that consumption is the cause of the death of so many early-hatched chicks, the prevention of which consists in maintaining the parent stock in the very best health and vigour, as this is indispensable to success, and to commence in good time to lay the foundation of vigour and endurance, to produce chickens which are to thrive and grow sufficiently well to become profitable.

COMB DISEASE.

Comb disease appears generally in the form of small white spots on the comb; sometimes on the eye and wattles, and, in a few cases, on the neck. When not attended to, the spots spread until they cover the whole body of the bird, and when it reaches this stage it is most troublesome to cure, as the treatment takes much longer.

Immediate attention is necessary, as the disease is very contagious. The affected birds should be removed quite away from the others. As these white spots develop they become much the same as warts in appearance, and as they grow they resemble a fungus, and spread rapidly if not checked. When they appear round the eyes they entirely close them in about three days.

We have tried many things for this, and as an outward application for birds suffering from the first stages of this complaint, we find nothing better than good liquid disinfectant. A feather should be stripped to within half-an-inch of the end, so that it does not hold too much, and just touch the centre of each spot, so that the liquid does not run down too far, as it is very strong. Should it run on the fowl's face or comb where there are no spots, it should be wiped off with a piece of soft rag. Each spot should afterwards be touched with oil—either sweet or salad oil will do.

Each bird should have not less than half a teaspoonful of roup powder in one day; in bad cases three parts of a teaspoonful is not too much, especially if the affected bird is a cock. It is well to mix the powder with a little flour and oatmeal, not less than half a tablespoonful of each, and if the patient is very ill, and cannot eat, a double quantity

of meal should be used, as this will provide them with food, which is most essential when birds are ill, and then with a little melted dripping form these ingredients into pellets and put down the birds' throats, for unless their strength is maintained, they do not yield to the treatment as quickly as they otherwise would.

For the first two days each bird should have a teaspoonful of castor oil, and after that, salad oil for a week.

When the fowls are taken ill it is advisable to dress them twice a day, and also give the pellets we have mentioned. After they reach the turn once a day is sufficient. When the above remedies are given at once on the appearance of the complaint, the spots will come off like scales, quite clear, so that the comb and face get quite well again, and nothing can be traced. If neglected, it becomes incurable, and develops into a fearful epidemic, as it is so contagious.

When fowls have anything the matter with their liver, followed by this complaint, they fall victims to it. In such cases some may think it is scrofula breaking outside the skin, but it is not so. Where there are many fowls kept it is best and safest to at once kill the birds which are affected with it, or take them right away, in case of it breaking out in other pens.

It is well to purify each bird in the house in which the disease has appeared. The best way to do this is to add one teaspoonful of good liquid disinfectant to one pint of water, and sprinkle in the feathers; or—better still—rub part in with the hand, and sprinkle the other about the fowl-house. Give the unaffected fowls some roup powder, in the proportion of one teaspoonful to six hens. When treated in this way, and

taken in time, it seldom spreads any further; and a preventive is better than a cure.

Comb disease comes as the result of several conditions. When fowls are fed on over-heating food, they frequently fall victims to this disease, as their blood becomes overheated, and finds an outlet in this way. Then, when fowls have been fighting, small spots break out all over their heads and faces; each peck seems to result in a spot, and unless they have treatment, combined with purgative medicine, they frequently succumb.

There is a stage reached after the spots have been allowed to grow, when only one course of treatment will save the birds; and when those which are affected are valuable breeding stock, and it is most essential to further breeding operations that they should be cured, it is necessary to adopt this, which consists of cauterising each spot. After having washed the combs with a solution of liquid disinfectant, and wiped them dry, the top of each spot should be roughened by using a bone penknife, and then the stick of caustic should be well rubbed over each spot, covering the whole surface of the spot carefully. This will make the skin black, and in about two days the eruptions can be rubbed off, and then vaseline should be applied. The birds should, in the meantime, be fed on bread and milk, and their recovery will be hastened by the giving of one dose of warmed castor oil, and then, each morning, a dessertspoonful of cod liver oil, before they are fed. Cod liver oil assists Nature in restoring tone to the bird's system, and supplies the necessary strength to enable Nature to do her healing work better. Cod liver oil is invaluable as a restorative for wasted tissue, and should

always be used when fowls which are valuable—either as layers or stock birds—are deranged. The ordinary kind, which has the full fishy flavour, can be used for fowls, as they do not possess any discriminating conditions of palate which require consideration, so the more expensive kinds should not be purchased.

It is advisable for all poultry-keepers to acquaint themselves with the symptoms of diseases; and then, if an outbreak occurs among their poultry, they know how to treat it. Preventive measures adopted at once save the lives of many birds, thereby adding to the total income on the year's working, as by this means losses are avoided.

CRAMP.

Hens and pullets are very subject to this, both during the cold weather as well as in the spring; but, as a rule, it is a symptom of ovarian derangement, rather than an illness in itself, with the exception of cases caused by allowing the birds to be on very wet, heavy soil without the provision of dry scratching sheds for occupation on those days when to be out of doors is fatal to the production of eggs. The treatment necessary when the cramp is due to ovarian disorder is referred to in the paragraph dealing with broken eggs in the oviduct. For cramp caused by injudicious selection of runs the birds require to be separated from the other fowls, and their legs held in hot water, in which some mustard has been stirred. It is also well to rub the legs with a nail brush, and when taken out of the water they should be rubbed quite dry; then a little turpentine rubbed in, and a little vaseline applied after, to keep the skin from drying

and cracking: The legs should then be wrapped in cotton wool or flannel, and the bird placed in a basket quite out of all draughts, in a moderately warm place, if possible. This usually cures them the first dressing; often they can walk well in six hours, but when it is not effectual at once, the treatment should be repeated.

They should be kept on moss peat, or straw, and then a warmth arises to their legs, and the blood circulates freely again.

To further help the cure, give the birds plenty of bread and milk, and a teaspoonful of cod liver oil twice daily.

INFLAMMATION OF THE LUNGS.

This is generally due to a sudden change in the weather, and the symptoms noticeable are quick breathing, and the birds appear to be in great pain, and usually drink a quantity of water if not very bad, and when not relieved they frequently close their eyes.

The outward symptoms are the same in cases of inflammation of the lungs, and bronchial affection which arises through the bronchial tubes becoming temporarily closed by a collection of fluid or liquid pus from a cold, or to the tubes having become enlarged, preventing for a time their opening and closing regularly; but when the birds which are suffering from inflammation are handled they only appear to be in pain, and their breathing, although short and somewhat irregular, is not accompanied by the wheeziness and gurgling sounds invariably found in birds suffering from bronchial trouble. For inflammation of the lungs, the regions covering these organs should be painted with tincture

of arnica ; the proper place will be found under the wings, where the flesh is free from feathers. Before painting, the operator should watch till he sees the movement of the lungs, and then paint over the exact spot. It is well to put a little vaseline on after the arnica ; if not, the skin may crack. The treatment should be repeated once daily, if necessary, but relief is given as soon as the first application has penetrated.

For bronchial trouble, a few spoonfuls of stewed linseed, as warm as the fowl can take it, should be given, and the affected bird kept in a warm room. An outward application of tincture of arnica for this answers very well.

One dose of castor oil should be given, and every day a good dose of roup powder. Care should always be taken to feed ailing birds well, to get their strength back, so that they may be better able to throw off the effects of the disease or ailment from which they are suffering.

DROPSY IN THE ABDOMEN.

This disease is, fortunately, of rare occurrence in the poultry-yard, the symptoms being : the affected fowl stands about very much by herself, and does not care about eating soft food ; is very inactive, and shows a great increase of size at the vent. In bad cases they are sometimes a little lame. The comb does not usually lose its redness, and the general appearance of the bird suggests that the fowl is ruptured. The abdomen is, however, very soft when examined, which is not so when the bird is ruptured, as this condition is due to the organs having slipped through the walls of the abdomen, and the weight of the mass in an unprepared quarter causes the organs to become matted to-

gether, and fat generally collects there in time. The collection of fluid makes the bird very heavy, and when they are in this state they should be tapped. This can be done by making an incision about three inches from the passage, which is just under the thigh, rather low down on to the abdomen. The incision should be made with a lancet or small penknife. The outer skin should be cut through carefully, and the inner or second skin will look very much like a bladder, with the water pressing against it. After this skin is cut through the water will escape, and the bird should be held for a few minutes for the water to drain away, then allow her to stand upon her legs, and hold her up by the wings, and in the struggle to liberate herself she forces the water from the organs. The feathers should be wiped as dry as possible, and a little vaseline put on the incision. Then it should be sewn up with a fine needle and white sewing silk. We have tapped hens and taken from $\frac{3}{4}$ to $1\frac{1}{4}$ pints of water from them.

There may be a few drops of water drain out after it is sewn up, but this will soon cease. Two or three teaspoonfuls of cold water should be poured down the hen's throat, and a roup pill be given, as this acts as a stimulant to the bird, which should be placed in a basket or coop for two or three days, and longer if in cold weather. If free from liver disease, the bird will be quite well in a few days, but fowls which suffer from liver disease are very subject to dropsy.

BUMBLE FEET.

Fowls frequently show symptoms of lameness, and in many cases the poultry-keeper has not the slightest idea of the

cause. Matured fowls are more subject to this ailment than young ones, for when chickens go lame it is usually through rheumatism or cramp, but adult birds have their feet swelled up underneath, and is usually due to a bruise in the first place. Sometimes the feet between the toes will swell a quarter of an inch higher than the toe itself, and now and then the fowls' feet get cut underneath, and the place gets filled up with dirt, which keeps accumulating until with the heat of the foot it becomes quite a hard substance. with a skin round it, just the same as a piece of scrofulous matter.

As soon as a fowl's foot commences to swell it is best to catch the bird and examine it, and should there be any dirt between the skin it must be pressed out. In many cases the bottom of the foot will have become bruised through the bird flying off a high perch on to the ground. When taken in time, and the bottom of the foot dressed and poulticed with soaked bread or bran—either will do—the inflammation is drawn out, and the foot gets well again. It should be poulticed about twice a day for a couple of days, then the bottom of the foot should have tincture of iodine rubbed on it, after which a little vaseline is a good thing to soften the skin, and, lastly, a piece of linen should be tied carefully round the bottom of the foot. If a little care is taken in the first instance, bumble feet can be easily cured; but when neglected, the sinews extend very much, and a cheesy matter forms between the bones and sinews, which in time gets quite hard. When a cock bird is afflicted with bumble feet, unless he has a very soft grass run, he is very little use for stock purposes, as the eggs are very rarely fertile till the middle or end of April. Fowls which have bumble feet feel the cold and a change in the weather very much.

SCALY LEGS.

This condition is certainly infectious, and if the first cases do not receive treatment it will be seen that the complaint is gradually spreading until all the birds' legs are affected; and, unfortunately, their condition becomes worse, until in many cases the scales are entirely destroyed. The cause of the eruption is due to the burrowings of the itch-mite (*Sarcoptes mutans*) under the surface of the scales, but it has yet to be discovered how it is that this insect is so prevalent amongst fowls. Sufficient care is not taken in the selection of broody hens, for when there is the least roughness on the legs of these birds they should not be set until they are cured, as they often cause the chickens to become affected—although the insect appears lethargic for some time after it has attacked small chickens, and the full result is not seen until they are several months old.

The legs should be covered with an ointment made of powdered sulphur and vaseline—in equal proportions—every morning for a week or ten days, at the end of which time the old scales can be removed and fresh vaseline should be applied to the new scales for a few days.

ENTERITIS.

This disease was little known in England until a few years ago, and as it is the most fatal disease to which fowls are subject, this is very fortunate. Medical men have proved that it is possible to modify the severity of the disease by means of inoculation, and to prevent its spread by a vigorous system of isolation, so that none of the excrement of affected birds came into contact with healthy ones, as by this means

the germs of the disease are most frequently communicated. Where a case exists it should be dealt with promptly. An affected bird stands and sleeps, and is very thirsty, and the excrements are thin, and look like chalk tinged with green. It is better to kill any which are affected, and bury or burn them at once, as recovery is impossible, and if allowed to live the birds spread germs everywhere. The liver is much enlarged and congested; the lungs turn grey, and the intestines are full of inflammation. When the disease is suspected, a teaspoonful of castor oil should be given to each bird, followed by one of salad oil. A ball of camphor should be placed in the drinking water, and the following day half a teaspoonful of roup powder mixed with meal should be given to each bird in the form of pills, and the next day a heaped-up teaspoonful of roup powder to six birds. The house and run which have been occupied by the birds should be immediately fumigated and the top soil removed, and all dug over as deep as possible, and the birds removed to fresh ground; the old house and run remaining unoccupied for three months.

All the birds should be well fed on bread and milk, and plenty of dripping or salad oil mixed in this. The fresh house and run should be covered with freshly-slaked lime once a week, and any birds which ail should be at once killed and buried, to save the spreading of germs. The measures to be adopted will thus be seen to be preventive ones, rather than curative.

BROKEN EGGS IN THE OVIDUCT.

There are a good many deaths amongst hens and pullets owing to inflammation of the oviduct—due to the skins of

broken eggs therein, and quite a number of these losses would be avoided if poultry-keepers understood how to treat their birds when the first symptoms are observed.

As a rule the excrements are noticed to be unusually soft, and, when examined, egg matter is seen. The appearance of the fluff at the vent of the birds which are in this condition lead the uninitiated to believe that the birds have diarrhoea, but the discharge will be found to be glutinous, as the yolk is generally passed away by the bird, and some of the albumen remains on the feathers—and the condition is not difficult to understand after one or two birds suffering from broken eggs have been examined.

As the skins generally set up acute inflammation within twenty-four hours—followed by the death of the bird—it is most essential that no time be lost in giving the necessary treatment, which consists of a dessert-spoonful of warmed castor oil, followed half-an-hour afterwards by a dessert-spoonful of salad oil. This will cause the skins to pass, and so avert the danger.

There are several causes for broken eggs in the oviduct. Over-pressure from the male bird is one; another is allowing the hens and pullets to roost on perches which are too high from the floor, and jumping down from which causes them to jerk themselves; another, and very frequent cause, is the occasional presence of a strange dog in the poultry run when the birds are in full lay.

As can readily be understood by those who take time to consider the matter, the skins of the eggs are not at all thick, and birds which are in full lay usually have two or three eggs, which are nearly perfect (with the exception of the

shell); so that anything which causes the hen or pullet to jump up will break these frail skins, and, unless the fluid is noticed, birds die from no apparent cause, while not infrequently the poultry-keeper is apt to think that his losses are due to an epidemic.

Now and then they are caused entirely by an over-active male bird. Close observation should be kept over the birds, so that if a cock or cockerel is over-active he may be allowed to run a less time with the hens than would otherwise be the case.

Some young pullets die before they pass their first eggs, on account of over-fatness in the region of the egg organs. As a rule, an experienced poultry-keeper is able to tell by the look of the birds that this is the case, and inexperienced ones can do so if they, after seeing their pullets go to the nest several times without laying—catch their bird, and find the egg near the vent.

As soon as this is noticed to be the case the bird should be held over a jug of very hot water, so that the steam can permeate the back passage. This causes the muscles to relax, and, as a rule, the bird is able to pass the egg in an hour or two.

A good many young pullets lose the use of their legs when they are laying the first few eggs of their batch. This can be remedied by holding the bird's legs in hot water for a few minutes, then wiping them dry and rubbing well with embrocation.

Shell-forming material must be given in abundance to birds from which eggs are required. Ground oyster shells and flint dust answer well for this purpose.

CROP-BINDING.

This is a common ailment, and is generally caused by carelessness or over-feeding, and for want of sharp grit, as well as the habit of throwing long grass into confined runs for the fowls to eat. It generally occurs, unfortunately, when the birds are in full lay, but, if treated at once, the stoppage is soon removed. The first symptoms noticed are that the fowl mopes about, often taking up the food and putting it down again, and drinking a great quantity of water. The crop feels hard, and the passage from it to the gizzard gets stopped. The best thing is to give the fowl two teaspoonfuls of salad oil and a little warm water, and some time after to gently rub the crop with the thumb and finger, so as to work out every particle of its contents. When the crop is not softer in three or four hours, the dose of warm water should be repeated, rubbing the crop as before; and if, in another four hours, the crop is still hard, the warm water, oil, and rubbing should again be repeated, and then if ineffectual, the only remedy left will be to open the crop and remove the hard contents.

The best way to do this is to place the fowl on her back and get someone to hold her; and then to part the feathers down the centre of the crop, taking care not to pull any out if avoidable, as they keep the cold out of the wound. The incision should be made at the top of the crop, with a sharp penknife or lancet, taking care not to cut any of the large blood-vessels in the outer skin. The incision should be about an inch long, or just long enough to remove the contents of the crop with the handle of a teaspoon. A little salad oil should be put on the edges of the cavity round the inside, before sewing

up. It should then be carefully sewn up with white sewing silk, a fine needle being used. Each skin should be sewn up separately; all should be wiped dry, and then a little vaseline put on the stitches. About half a teaspoonful of salad oil should be given to the fowl at once, as this heals the wound inside, while the other does so outside.

The fowl must not be exposed to the cold for several days, and no water must be given for two or three days, or it will find its way through the stitches and dampen the hen's feathers, causing her to take cold (especially if in cold weather), preventing the wound from healing. The diet should consist of soft food, such as soaked bread, given warm, and soaked corn. The birds will in many cases not even stop laying, the operation affects them so slightly. Care should be taken in removing the contents of the crop, as sometimes there are pieces of glass, bone, or cinder inside.

Very often, when fowls are crop-bound, they drink such a quantity of water that the crop becomes full and remains so, hanging down like a bladder. When this occurs, the best remedy is to hold the fowl's head downwards, and press the crop so as to force the water out; if not, the crop will fall through the inner skin, which gives way and allows the crop through, and when the hen walks it is in her way when stepping. This is what is termed a ruptured crop, and birds which are in this condition should be killed, as a large mass of sour food, etc., accumulates in the crop and causes the eggs produced by her to taste musty.

A stoppage is often caused through the fowls eating long grass, or swallowing long pieces of hay. This accumulates and gets bound into a ball in the crop, and partly causes a stop-

page in the passage leading to the gizzard, and at the same time causes a little inflammation inside. The fowl becomes thirsty, drinks too much water, and the crop falls through the inner skin, as it is only kept in position by this. When once it falls it rarely, if ever, goes back into its proper place. Sometimes when the crop is cut open it is necessary to get hold of the long pieces of grass or hay, a little at a time, and twist them, the same as one would a hay band, then withdraw gradually. When an incision is made, the crop should be held with one hand, or it will turn round. It is difficult to find a hole in the crop unless something is put in at the time, such as the handle of a teaspoon..

SOFT (OR SHELL-LESS) EGGS.

Fowls will occasionally produce eggs without shells, generally due to being insufficiently supplied with shell-forming material. When hens have been producing a large number of eggs, they make eggs faster than Nature can shell them without assistance. We have had fowls produce one perfect and one shell-less egg in twelve hours, and have frequently had them lay one shell-less egg in the night and a perfect one early next morning, and this is not an exception, but often occurs where good layers are kept. It has been thought impossible for a fowl to produce two perfect eggs in 24 hours, or, rather, to shell them in that time; but it is not, having had pullets under eight months old do it. Fowls are not always out of order when they produce shell-less eggs, because they sometimes do this when supplied with everything necessary to form the shell and keep the egg organs in a healthy state. The production of double-yolked eggs weakens the

egg organs, and sometimes causes soft eggs to be laid. When fowls are over-fed, and become very fat internally, they frequently produce soft eggs; and when they have been laying a long time without a rest their egg organs naturally get weak, especially if they produce large eggs. The oviduct, or egg-passage, is wonderfully constructed. It is attached to the ovary (this is where the eggs first form), where they hang in the same form as a bunch of grapes, and can be seen through a microscope when not larger than the point of a pin. They are so constructed that the largest are at the bottom of the ovary, or, rather, they are encased in a skin, and as they grow they lower themselves into the top of the oviduct. After the egg is severed from the ovary it has to pass through the oviduct, or egg-passage, which is from 12 to 19 inches long. In some fowls it is seven inches longer than in others. In some it has been known to measure 23 inches. It is while the egg is passing through this passage, it collects the albumen round the yolk, and then the lime, which, becoming hardened after it is in contact with the air, forms the shell.

The egg-passage does not lie in one straight line, but is similarly constructed to the intestines, but more of the pot-hook shape. If an egg is examined in a fowl before it leaves the ovary, there will be found some small blood veins upon it. These leave the egg before it passes into the oviduct. Should a hen be startled or very much frightened, or over-reach herself, the little blood-vessels become ruptured. This is one of the causes of small, dark spots being found in a new-laid egg; they are usually found at the large end of the egg, not in the yolk, but at the top of it, just between the yolk and white. Sometimes it is caused by the male birds being

too heavy. When these spots, which in some cases are as large as a pea, are found in a boiled egg, people think they are not new laid, and that they have been taken in. After a hen has been very frightened, a shell-less egg will break in the egg-passage. When this is the case, the fowl may be seen standing very erect, with tail down and head up. The feathers are usually wet behind, while the other part of her plumage looks very rough. If not attended to, fowls often die when this occurs, and as they are usually found dead on the nest, the cause of death is frequently put down to egg-binding, when it is really the skin of the soft egg left in the egg-passage. This irritates the fowl and causes her to strain as she cannot pass it, and causes a rupture in the egg organs, and often of the body too, and is sometimes the cause of the laying hen being so large and down behind.

When any of these symptoms appear, the hen should be caught and examined. The skin of the egg can usually be found just inside the egg-passage—occasionally it is already protruding; if so, it can easily be withdrawn by gently pulling it when the hen endeavours to pass it. It must be done very steadily; if not, it will break inside. When it is broken inside it can be withdrawn with tweezers; a small piece of linen rag should be tied on the end of the tweezers and a little oil put on the rag. When this is done, it is not so likely to break the skin or hurt the fowl.

If this precaution is not taken, inflammation follows. This is partly caused by the hen straining herself. The vent should be bathed in warm water, wiped dry, and then a large feather dipped in sweet oil should be put up into the vent about three inches and twisted round two or three

times, so as to leave the oil inside. She should have a little hard corn, so that she does not lay any more eggs until the oviduct is strong again. If so, it causes irritation and the bird becomes very ill.

Ground oyster shells and flint dust are excellent things for laying hens, as they answer two purposes, viz., supplying material for making the shell and helping them to digest their food. Old mortar and cinder ashes are useful for them to pick up. When all these remedies fail, bone meal should be given, as this strengthens the egg organs, and helps the body generally.

Flint dust mixed with soft food is an invaluable thing for the laying hens, as this will prevent them laying shell-less eggs when everything else fails, and especially in the breeding season, as it makes the shell of the egg more brittle, and the chickens are able to liberate themselves much better. In the spring and summer we use flint dust with a little ground oyster shell mixed in the soft food every day; in the autumn and winter three or four times a week. One single handful is sufficient for 25 to 30 fowls. A very small quantity will keep the organs in good order, and if only given them three times a week it helps them very much.



HINTS FOR THE MONTH.

JANUARY.

WHEN the first month of the year is reached, exhibitors and those who breed table poultry have their birds mated, and most of them already have chickens out. Those who require birds for the early shows waste no time when their stock birds are laying, while round the countryside there has been a search for broody hens. The advantage possessed by present-day poultry-keepers, even in this direction, is only realised by those who are acquainted with the conditions which existed years ago, when winter eggs were scarcely known.

In those days it was a very difficult matter to get broody hens, because none of the birds had even come on to lay when broodies were required. The ordinary fowls did not lay until about February and March, therefore it was almost impossible to get broody hens.

Now that the laying qualities of fowls have been studied, and good laying strains established, it is an easy matter to get pullets laying in September, October, and November, and these, when of the breeds which sit, can be relied on to become broody in December and January.

Although there is a great increase in the number of machines used for hatching, sitting hens are preferred by the majority of poultry-keepers who go in for valuable eggs for the production of high-class fowls for early hatchings, as the eggs are more valuable then, and if one hen should happen to go off the nest, only a small number of eggs are spoilt thereby, which is not the case when there is a machine full of eggs.

In some cases those who are hatching table birds use incubators, as they require large hatches of chickens off as early as it is possible to get them, and they collect all the eggs they can get together, with the intention of obtaining chickens as early as possible.

In the Sussex districts, however, where large numbers of chickens are hatched for the trade, very few of the poultry raisers use machines, but prefer to rely on the old-fashioned means, and all available broody hens are eagerly sought after, and set from December onwards. When poultry-keepers have taken the care to obtain really good layers from the best laying strains obtainable, they will have no difficulty in getting eggs—and fertile eggs, too—from their birds.

The male birds require to be kept in good form, and to do this meat should be given in the proportion of one-fifth to four-fifths of meal. Granulated meat is an excellent substitute for fresh meat in cases where it is not convenient to purchase paunches, lights, etc., and cut them up for the birds.

Great care must be bestowed upon the stock birds, to see the eggs are fertile, and the feeding of the cocks should be

carefully attended to, as on this depends very much of the success of the breeding season.

It is well for poultry-keepers to be on the alert in the early part of the season to get as many eggs as possible, and to hatch out all the chickens they can, and then they will not need to have any anxiety later in the year.

We invariably find that the early birds do extremely well; and this is not to be wondered at, when we remember that they are hatched from stock which are full of vitality, and have not been weakened by continual laying.

The February and March-hatched chickens generally do particularly well, and these birds can be relied on to produce an abundance of eggs during the following winter, as they lay early, then moult, and come on to lay again when eggs are fetching the best prices; and these second batches are invariably much finer in size than those which are produced by birds which are laying their first eggs.

We have pleasure in recording that prices for eggs have been exceptionally good during the last two years, and there has been a great demand for them; and poultry-keepers who have had good numbers have had the best egg season, as far as prices have been concerned, that they have ever known.

The great secret in the careers of most poultry-keepers, successful or unsuccessful, generally turns out to depend very much upon the amount of pains bestowed upon the minor details of management. It has been said that the power which enables people to take great pains amounts to genius, and certain it is that the power to take pains is a most important factor in the success of poultry undertakings, and it

is a few of the old details and some new ones that we propose looking at once again.

First of all, we have the maintenance of a healthy condition in the birds, which require careful housing and judicious feeding.

The feeding of fowls is better understood now than formerly; as poultry-keepers realise the importance of the nourishing feed of soft food after the long night on the perch, they know, too, that feeding on inferior corn does not pay, as the birds have to digest a mass of material which is of but little use to them, and the surplus stock which is required to nourish the egg organs is not supplied to the fowls, which are only just able to keep themselves on the poor food supplied by many poultry-keepers.

The houses for fowls require to be watertight, but not too warm. Birds need fresh air, and unless the houses are well ventilated, they become very hot—and unpleasantly so by the time they have been occupied for fifteen or sixteen hours. Heated houses are not required in England, as the change from the hot house to the outer air when the birds are let out from them is too much for the birds, and results in cold and roup. Top ventilation is the best, and there should be a free current of pure air above the birds' heads, then all impurity is carried away.

The floor of the house should be perfectly dry. We do not wonder that a good many poultry-keepers have reason to complain that they are getting no eggs, when we look in their houses and find the floors quite wet. With cold feet hens and pullets cannot produce eggs in the winter months. We very strongly advocate a bedding of moss peat in the

houses, as this is soft and warm for them, and is a perfect deodoriser and absorbent as well. A soft, warm bedding is good for the birds.

Plenty of scratching exercise should be provided for the birds, by scattering dry corn amongst the loose dust in the covered runs, as this means active, healthy birds. The perches should be movable—fitted into slots—so that they can easily be removed when the peat is raked over.

An important matter in connection with poultry-keeping is the vermin question. The little pests swarm in some of the fowl-houses, and play sad havoc with birds of all kinds and all ages—the weakest going first to the wall, of course.

One little red bug we have long known as a terrible pest, but we have always found them congregating in large numbers in some hiding places, and then at night, when the birds are roosting, coming forth and sucking their blood as they perched and attempted to rest.

These little red bugs are very strong insects, although so small, and are very powerful antagonists when they are present in numbers on fowls.

To remedy this state of things, the greatest care must be taken to see that the perches are quite clean of these pests,

The principal reason why this matter should receive immediate attention is that the winter laying is very largely dependent upon the preserved vitality of the fowls, which is greatly lessened by the presence of insect pests.

We always recommend the burning of the old perches, and in cases where these are fixed they should be pulled out, and any bark-covered perches should be burned, and every part cleansed, so that all insects are destroyed.

All stock birds should be examined for insects, and should be covered with insect powder, dusting them over a large sheet of brown paper, so that the loose powder can be returned to the tin, and all waste avoided.

Where birds are not laying, it is advisable to give them some poultry powder in their soft food. This is most helpful, and does not over-stimulate them in any way.

Those who have not their stock birds would do well to make arrangements to purchase them shortly, so that they can get settled down, though we know with some people it is almost an impossibility to get them yet. Suppose, for instance, one is selling eggs for eating, and realising good prices for them through January, and has no other place to mate the birds, it will be a good plan not to let a male bird run with the hens, but have the birds all ready to put with them; then the eggs will be fertilised in five days—at any rate, they can be relied on in seven.

Then, again, it is often difficult for those who may have a large number of birds to mate them, because there is a lot of surplus stock about, which the owner cannot afford to give away, and which is worth more than killing price; therefore the birds have to stay where they are till someone comes along and buys them.

We would advise those who have a lot of stock cockerels, and do not intend killing them, that the best way to manage is to put them all together in a pen, no matter if there are from twenty to fifty, as long as there are no hens.

It is very seldom they will hurt each other, though two may have a fight, but, as a rule, the others all get round and stop it, and make them run. We often have as many as forty in

one pen, and very seldom find any mischief done, though occasionally one will get torn about a bit, but this happens far more often where two or three cocks are running with a lot of hens. Stock cockerels are always in great demand in February, and often as late as March and April, as there are poultry-keepers who do not mate their fowls before this, and those who often get another bird or two in later in the season to replace those which have not proved satisfactory.

FEBRUARY.

There is certainly a brighter aspect two months after Christmas than two months preceding it. The two former months we appear to be looking forward to gloomy days, but when we get into February, we have left the dark days behind us, and are already anticipating the pleasures of spring and summer.

This time of the year is a busy one for poultry-keepers. Some are engaged in making preparation for the breeding season, while others are in full swing hatching early broods of chickens. Frost does not hurt them as long as they are kept dry, although they cannot stand the cold winds and wet.

The weather is frequently much against the stock birds, as well as the chickens, during this month, but it is well to look upon the bright side of everything, as there is always a good prospect of improvement after a month or two have elapsed.

February is occasionally a very good month for poultry, even better than March, which is invariably windy, though sometimes we get sharp frosts early in the morning, particularly between about 5 a.m. and 9 a.m.

When hens lay in the early morning, just as it is getting daylight, the eggs frequently become spoiled by the frosts. It is well, therefore, in order to avoid this misfortune, to take them out of the nests directly they are laid. We always make a practice during the cold, wintry weather, to collect the eggs at least twice a day. The poultry-keeper should endeavour to make a great point of this, particularly when the eggs are exposed.

During February it is well to give all the stock birds some hemp seed, as this grain is very warming, and acts as a stimulant to the system. It should be given the last thing at night, after the fowls have had their feed of ordinary corn, or it may be mixed with the corn. The drawback to this plan is the fowls usually eat the hemp seed up first, and leave the other grain, and will not do this if they are fed as suggested.

Whenever fowls leave any grain, they should always be made to go without a meal entirely, and have a dose of castor oil at once. This treatment does them good, and will usually bring them up to the scratch by the time the next feed is given.

Those hens which are two years old and over should have careful treatment as regards feeding, if not they become very fat internally.

The corn should be buried in some loose stuff, a little being sprinkled on the surface and covered over, then the fowls will scratch and rake for every grain. This soon reduces the surplus fat, and brings them on to lay more quickly than anything else. When fowls get so fat inside it not only prevents them from laying for some time, but often causes them to rupture the oviduct when they do commence to lay.

Those poultry-keepers who have not had a good supply of eggs during the preceding months will see how important it is that their birds should be attended to in this respect. When fowls are in full lay during the winter, it prevents them accumulating much fat.

The morning meal should be mixed hot, and given as hot as the fowls can eat it. It is as well also, about twice a week, to boil some rice and mix it with the meal for a change. A little meat does them good, and may be the granulated meat or paunches and lights, boiled and cut up, and in every case the scraps from the house should be utilised for the poultry.

By scraps, of course, we refer to the little pieces of fat, meat, cold vegetables, pudding, pieces of bread, and any waste which comes from the table and from the kitchen. These should all be put together in an old saucepan, and boiled, with a little water at the bottom so as to prevent them from burning.

The addition of the poultry powder will be found a great help to the fowls this month. It should be well mixed dry in the soft food before any moisture is added, and one teaspoonful to every eight birds five times a week is the proportion. One good thing about the powder is that it can be discontinued at any time, and does not injure the birds in the least, and if it is only given for a week it assists them very much, and often induces them to lay at once. Many large breeders use it to bring their stock birds on to lay early.

All who have breeding stock mated, and want to set their eggs during this month, must watch their male birds, to see whether they pay sufficient attention to the hens. Occasionally a cock may be noticed driving the hens away from

the food, and trying to eat as much as he can, and particularly is the case in the autumn and early parts of the winter, more especially when the old cocks are not properly over their moult. When they act in this way after February is in they must be regarded with suspicion.

There are, of course, exceptions to every rule. A male bird may have been half starved, and then put down with the hens, when he will at once commence to drive them away, but when this is the case he will recover from the habit as soon as his appetite is satisfied.

Where young cockerels have been running with other male birds, and have never been with hens before, or perhaps have been chased about a good deal by their companions, and have not been able to get proper food, as soon as they are put down with the hens they will often peck them, and are very greedy after their food.

In such a case as this the poultry-keeper need have no anxiety whatever, as the birds will soon get over the habit.

On the other hand, some male birds pay too much attention to the hens as regards their feeding. They will often call them to eat the food, picking up and laying it down again until the hens have eaten it all, in many cases going without themselves, and serious consequences often occur, as they become too weak, and many of the eggs laid by the hens will be unfertile.

When this is the case, the male bird should be lifted down from the perch as soon as he has gone to roost, and be fed by himself in the run, so that he may be well satisfied before going to the roosting-house, in order that his vigour may be

renewed and he may not suffer from the effects of his gallant behaviour to his hens.

During the winter months it is always well to feed fowls in troughs, then there is no waste with the soft food. When the birds have eaten as much as they require it can be taken away should it happen that they have been over-fed.

MARCH.

The month for which poultry-keepers of all classes have been waiting is now here, and activity is apparent on every hand, for those who have had experience realise that it is an important matter to hatch out some broods without delay as soon as March is in, and the sight of the hens gathering their little chickens under them will soon be gladdening the eyes of those who love fowls, all over the country.

The stock birds must be kept healthy and active to conduce to the production of chickens with plenty of stamina.

During February poultry-keepers frequently experience some trying weather, and those who have provided their birds with scratching sheds have reaped considerable benefit from them, as the fowls thus cared for have done much better, in the matter of egg production, than those which have had to be out in the runs during the windy days.

Large-combed breeds, in many parts, have suffered very much from the cold winds, and those which were without the scratching sheds have been much affected.

We have no hesitation in stating that those young chickens which have been out in the open all the time have fared the best. We believe in placing the coops right out in the open from the first, and as soon as the little chicks are placed

with their mothers or in the foster-mother, these are always put straight out in the open air on our farm, those coops containing the youngest birds having the most sheltered spots allotted to them, and then as the birds get their feathers, the coops are moved to the more open positions.

It is a great mistake to keep the coops indoors, or even in barns or outhouses. Chickens thrive in the open air, and the only precaution necessary is to move the coops so that their occupants do not encounter the full force of the wind.

Everyone who has early chickens should use peat moss at the bottom of the coops and foster-mothers, as it is dry and a perfect deodoriser, and one of the greatest boons to all classes of poultry, especially during winter months.

The cause of death in many cases which have recently come under our notice has been the exclusion of fresh air from the birds, as chickens must have this if they are to be healthy. The first indication is in their legs, which are cramped and grow distorted, and then they hang their wings.

A change in food is often tried, and in mentioning this we have found in the case of chickens that have been reared artificially, that in nearly every case soft food had been mixed up, and the little troughs were quite full. The heat from the foster-mother soon caused the food to go sour, producing diarrhœa, and resulting in many deaths.

In some cases the food had been in the trough many hours, and, of course, the attendants waited until this was eaten up before they gave any more. This alone would suffice to kill chickens. When they are fed they should have clean, sweet food every two or three hours during the day, which means feeding them five or six times a day.

It must be remembered that chickens have to take all their nutriment during the day, so they should have it a little at a time, and then their little crops get quite full by the evening, but if they are over-fed and the food is left about, many of them do not half fill their crops, and some begin to droop and hang their wings.

Little chickens should be fed in the same way as the old stock, and should clear up their food when it is given them. If anything is left over (as they do not clear up all the first fortnight), and it should happen to be dry food, such as groats and hemp seed, it may be allowed to remain, as the birds will go under the hen for half an hour, or in the chamber with the foster-mother, and then they will come out and pick any little pieces that are left, but when they are fed on chicken meal or anything soft, it should be removed if there is any quantity left after they have had their feed.

We have found the hatching results beyond the average this year, and the chicks are thriving wonderfully.

The care of the stock birds must not be overlooked, and those who have a male bird which is not active now should clear him out and get another. Some may enquire as to how this point can be determined. This can easily be settled by watching the birds, especially when they come out first thing in the morning.

It may be remarked that this is an expense, which is certainly the case, but it must be remembered if one requires early hatches, they should do all they can to ensure fertile eggs, as a hen may sit her full time upon unfertile eggs, and this, of course, causes disappointment when it is discovered (all too late) that there are no chicks. But that is not all; it is

the following autumn when the poultry-keeper feels it most, as that is the time he should be getting a good supply of eggs, instead of which the pullets are backward and do not commence to lay at the required time. If only a few broods of chickens can be hatched out so as to get eggs, it is not so bad.

A great many people make a mistake in this respect, thinking if they put a male bird with two or three hens the eggs are sure to be fertile, but this is altogether a wrong idea, as they forget that over-fertilisation by the male bird results in clear eggs.

Then again, it may be that two or three good laying hens may be possessed, and in such a case we should advise breeding only from those birds, and not the ordinary hens, by running the male bird with those on alternate mornings only.

Some people prefer breeding a few pure and a few cross-breeds the same year; this can easily be done by having one male bird and pure hens of a different variety, say four Orpington hens and a cockerel of this breed and three or four Minorca hens.

We find some poultry people in various parts of the country who have whims and fancies, and want to change their birds very nearly every year for something. They like to keep in the fashion, and like to have the breeds which are most popular. This idea is a good one where there is a little money to spare, but it is not a plan to be recommended to those who have to study ways and means, because when a supply of eggs is forthcoming all through the winter, and there are some good layers amongst the flock of fowls, it is not wise to get rid of them at this time of the year.

When birds are removed at this time of the year, as a rule

it does not stop them from laying for more than two or three days, while in the winter it often throws them off for a fortnight or three weeks. We have known fowls to be removed whilst in full lay after March, and it has not stopped them laying.

It is sometimes necessary to have two cocks in one pen, on account of the number of hens, and it is not always easy to get them friendly with each other, especially at this time of the year, but we will mention how it can be managed.

The heavier one of the two should be put down first, if there is any difference between them. Let him run for a few minutes with the hens, and he will soon commence strutting about as if he is king of the pen. Then the second bird should be put down, and most likely he will be a bit scared at first, when he sees another cock with the hens, and he will perhaps show fight.

After they have had a spar at each other, the smaller bird should be hit on the side of the head, then his head should be put under his wing, and the bird swung round a few times. When he recovers from this he will feel dizzy, and the other male bird immediately knocks him over. In seven cases out of every ten they will not fight after this, as the one which is beaten thinks the other bird has completely mastered him. As the smallest bird is generally the most nimble, he can get out of the way of the other, but should the smaller one be master, he will punish the other severely.

People who are unfortunate enough to have birds with colds now should use our roup powder. Those who are buying in fresh fowls should give them the poultry powder every morning for a week. It will improve them wonderfully, and soon

start them on to lay. Any who are short of eggs should use the poultry powder at once, as all breeds of fowls should be laying freely now.

Those who have the feeding and management of poultry should watch and see that the male birds get sufficient food, especially during this month, as the nights and mornings are often very cold, and the sun is hot during the day. The cock birds are often so anxious that the hens should have enough food, that they will call them, forgetting all about themselves.

In such a case as this it is well to get them used to eating out of the hand. When there is time, a little box should be made, so that the male birds can reach up to it, and so get the food, but the hens cannot.

Directly a hen begins to show the first signs of becoming broody, we immediately transfer it from the nest-box to the broody coop, with which all our runs are furnished. By this treatment we find that the pullets and hens often recommence laying immediately they are returned to the pen.

The frequently-heard complaint of the broodiness of the brown egg-laying breeds is due to the lack of knowledge on the part of those who attend to them, in allowing the birds to remain on the nest too long before the broody coop is requisitioned, and in consequence the bird takes longer to recover its normal condition, and probably does not recommence laying for three weeks or a month.

Exercise is an important factor to success when laying fowls are kept, and this is especially the case when birds of the brown-egg-producing breeds are kept, as there is a tendency with those to that inertia which results in the accumu-

lation of adipose tissue to the detriment of results in the form of eggs, as internal fat is really harmful to the fowls, clogging their liver and preventing the egg organs performing their proper functions. The lazy hen is invariably unprofitable, and although it is not impossible in the provision of scratching exercise to supply the birds with egg-producing machinery, the lack of exercise frequently interferes with the development of eggs in hens and pullets which would otherwise prove really profitable.

There are many people in the poultry business who are most unscrupulous, and who do not mind at all if they can secure just one order from their customers, and who are just seeking to make a profit on the sale of birds which pass through their hands, without caring in the least whether those birds give satisfaction to their purchasers or not.

This kind of trading exists in every breed and variety of fowl, and amateurs need to exercise great care in the purchase of their birds, as, unless the selection made on their behalf is from really useful fowls, disappointment must result, and unfortunately many really profitable breeds have received a bad name, owing to the unscrupulous poultry dealers and vendors who have advertised and sold birds which have been bred without any regard to qualities, as some well-known strain.

It is such an easy matter to do this, as it is impossible for the purchaser to detect the fraud; and the results which follow prove that they have been taken in; there is no redress whatever. Several cases having come under our notice recently of cross-bred birds having been sold as pure breeds of our strain, induce us to emphasise the importance of pur-

chasers exercising more care in their purchases, so that it will not be an easy matter for dealers who are not breeders to take in the unwary.

The principal sufferers in these cases are the purchasers, but as discredit is also reflected on the founders of strains of every useful breed—which are so popular that they are quoted everywhere both rightfully and wrongfully—and when disappointed purchasers find out how they have been taken in, it is often too late to repair the mischief.

APRIL.

This is a very busy time for poultry-keepers, as it is the wish of all to get as many eggs set during this month as possible. April is one of the best months in which to set for winter layers, and unless people have the best appliances, and many conveniences for the rearing of chickens in January and February, they are frequently nervous as to the results from hatches which they consider too early, and leave until April the setting of the bulk of eggs, as by doing so the March winds—which are very treacherous, and frequently so disastrous in results—are avoided, and the young birds are not subjected to the varying conditions which are inseparable from our changeable climate, and which check their growth very materially.

Undoubtedly a larger number of eggs are set during April and May than in any other months, and their fertility can then be depended on with certainty. The hatching results in recent years have been much more satisfactory than formerly; but there are many losses amongst the chickens, due to the heavy rains and high winds which are very general at this period.

When early chicks are on a light soil, or where they have covered runs to their coops when they are kept on a heavy soil, they make progress, no matter what the weather may be, and it really pays to provide covered runs for the early birds, as they make greater progress by having this precautionary measure taken.

We have during the past year or two been much impressed by the difference in the size of the chickens of exactly the same age which have been raised by different people. In one district we visited a man who has been rearing chickens for years, and keeps three 100-egg machines regularly at work with foster-mothers, and hens for the chickens; and although he had not been losing many, we considered the birds very small for their age. We called on another poultry-keeper who had chickens of exactly the same ages, and we found these nearly half as large again. This difference in size was entirely due to the attention and frequent feeding received by these birds, for they were never allowed to go over the two hours between their different feeds; and the progress made well repaid their owner for his extra trouble, because the time lost in the early stages of a chicken's life can never be made up again, and it is by giving attention to their regular feeding that the foundation of a hardy fowl is laid.

When the weather is favourable during March, much progress is made by the early-hatched chickens, but as the month usually leaves us blustery winds, poultry-keepers, while hoping for settled days, with an hour or two of sunshine intervening, must be prepared for the cold winds which invariably intervene.

Great progress will have been made with hatching operations, although some poultry-keepers will have had cause to complain of a good many chickens being dead in shell.

We always advise assisting the young birds to liberate themselves, by chipping a piece of shell off the large end of the egg, when this is due to hatch, as the birds are not always able to break through, on account of their position in their shells. A small piece of shell should be removed at the large end of the egg, and from this the position of the beak of the bird can be ascertained, when another piece should be removed, just where the beak of the bird lies. It is a capital plan to hatch eggs thus chipped in a machine, if it can be arranged, as the weight of the hens frequently crushes the chicken before it is hatched.

Large numbers of eggs are set during April and May, as they generally hatch well on account of the more settled state of the weather, and the prices are within the reach of all.

There are a good many poultry-keepers who defer purchasing their eggs until they can procure them at the reduced prices offered by most of the leading breeders. It is a good plan for everyone to procure eggs now, as they can be obtained from the best birds at very moderate prices, and good birds can yet be hatched for the winter shows from prize eggs, whereas excellent winter layers will be reared from birds hatched in May, if bred from really good laying strains.

It is a very busy time amongst poultry-keepers, and we advise all our readers to make the best of it, and get as many eggs down as they can without delay. Up to the present, the young birds will have suffered more from the cold winds than from any other cause. Those with covered runs

possess advantages over those who have not been able to provide these for their chickens. Protection from the winds is necessary, but it is a serious matter, and very detrimental to the chickens, when they are not placed out in their coops in the open air. Shutting chickens up is bad for them—they need fresh air.

It is very necessary that care should be taken to prevent the chickens of different ages running together. In cases of this kind the weaker ones invariably suffer. The hens know their own broods, and persecute those which do not belong to them, and when these happen to be quite young birds, it goes very hard with them, as the consequence of the fierce blow on the head, which the enraged mother hen gives to the little bird, is seen in the drooping wings of the young birds in the course of a few days.

Where chickens are brought up in numbers, they should be separated in groups according to age, as far as possible, so that they may be kept healthy and strong. A little wire pen would separate chickens where people have limited space, and only a few are kept; but farmers with plenty of ground should turn the birds into the fields, as they will pick up a large amount of insect life, which is the very best food they can have to help them in every way to grow into fine, strong birds.

We might mention instances which have come under our notice where several breeders, who had read an article on this subject, had turned out a lot of chickens, of about a week or ten days old, in open fields. These chickens not only got their own living, but they feathered faster and grew quicker than those that were fed round the homestead, and

developed into fine healthy fowls. The reason for this is easily explained. The chickens slept in the open, obtained plenty of grit, and an abundance of insect food, which is Nature's own provision for the feathered tribes, and especially for growing stock.

If farmers would only utilise their opportunities in this way, very much more might be accomplished in the way of profitable poultry-keeping than is at present gained. We have known cases where from 600 to 1,200 young chickens have been running on about twelve or fifteen acres of grass fields, and have done very well, thriving and growing, and costing very little trouble or expense. As the birds get bigger they are removed to other fields.

Table chickens which were hatched in December and January should be sold off during this month, as they will make a good price in the London markets; and the pure chickens should also be sorted over to see if any are defective in colour or otherwise, as it is always better to clear such birds out during this month, to make room for those which are marked correctly. Where prize birds are being reared, this is especially important, as nothing is worse and more likely to hinder the full development of the best specimens than the overcrowding of the young chickens. If plenty of space be allowed, they will grow into bigger and stronger and finer birds altogether.

There is no substitute for fresh air in rearing live stock of any kind, and in the case of the frail little chicken it is especially important. We prefer, therefore, putting the birds in a coop with a wire front, as this does away with the possibility of the chickens roosting with the older birds.

The older birds take the little chickens up to roost with them, and nothing so effectually checks the growth of chickens as the huddling up with older birds.

Of course, the wet weather, which comes to us in the "April showers," although it lays the dust, yet also wets the grass. When little chickens are reared upon grass runs—and the best always should be—coops should have bottoms to them, on which a good layer of dry peat moss should be spread. The wet has a tendency to give the chickens cold, and this will be avoided when they have some nice, dry peat moss, or, failing this, even chaff or short stuff out of the barn would be warm and dry for their little feet, making them comfortable when they run in out of the wet to the mother. A boarded bottom to the coop, with nothing to cover it, causes cramp; better have no bottom at all than bare boards.

Little chickens require sharp grit as soon as they begin to eat. Flint grit or crushed crockeryware and other hard, brittle substances, the particles of which carry a sharp, keen edge, should be given, of course in small quantities, and broken almost into dust, at the first onset, the size being increased as the chickens grow larger.

Wet weather very naturally induces diarrhoea, but this is not the sole cause of the distressing malady in young chickens. The cause is more often the eating of stale food, groats particularly, which unprincipled corn chandlers having in stock, clear out at a low price as good enough for chickens; and violent diarrhoea frequently results, carrying off many, and reducing others to a condition of extreme weakness, which injures them for life, relaxing the bowels and producing a

foundation for all sorts of weakness as the chickens grow into bigger birds. Thousands of little chickens have been killed through eating stale groats.

To test groats, one has only to taste them, and if musty, they will soon be detected. All that are not fresh should be given to adult fowls, but, of course, not too many, even to them.

We have been asked whether birds hatched the previous July are suitable for breeding from during the next season. We are of opinion that they may be bred from in April, but such birds are really not fit for breeding during the severer weather of January or February, as, in breeding, a little more or less of age tells in every way, although some really good birds are hatched as late as July which would be fit for breeding purposes, but we cannot hope to breed strong stock from very young birds, which have little strength after growing so rapidly into adult birds.

Hens are especially valuable this month for sitting purposes. Any poultry-keeper having a number which are not so good for laying as they have been, might make good prices of them for sitting purposes, as people are never so particular as to the age of hens as long as they are good sitters and mothers, and now good eggs are cheap they can be utilised to advantage.

The January and February-hatched chickens have left the hens or even the cold brooders by the middle of this month, and poultry-keepers must be careful not to put them on round perches. Many birds are spoilt owing to the carelessness of breeders who let the birds roost on round perches.

The perch should be two inches wide, and only have the

sharp edges bevelled off, and made to fit in a socket at each end, so that they may be taken out and paraffined once a month during the hot months up to October.

Those who have very early chickens out and want them for the market should boil their grain, and give it to them rather warm. Chickens put on fat quicker with boiled corn than when it is fed dry to them. They grow quicker, but are flabby, and do not get so solid, but this condition is corrected after they are in the fattening coops.

We do not recommend that chickens which are left for stock should be fed on much boiled corn, but those that have to be killed should be ready for table a little before they are four months old.

Early spring chickens pay better than any others, as they make a long price when small. The breeders are able to clear their ground for the later chicks. In fact, April and May may be termed the harvest for those who produce table birds. Good spring chickens usually make 3s. 6d. to 6s. 6d. each, according to quality, during the above months, although they are less weight. It is surprising that more people do not aim to produce these. In March they fetch a good price, but not so much as in April and May.

Chickens that are hatched from the first of April and the following months are liable to get ticks on the back of their heads. To keep free from them, it is wise to rub a little of our nit ointment on them. This is a sure preventive, when dressed with this at the age of from 36 to 50 hours.

This insect is quite different from that which is usually found on birds; we have known nine hundred chickens die out

of a thousand in three weeks through them. It is flat, dark in colour, and is found on the top of the head.

Those who hatch chickens by hens should be careful to dust the hen all over before she sits, and again three or four days before the brood comes off, otherwise the vermin from the hen suck the blood from the chicks. These insects are brown, and are called fowl lice, but they are quite white when first hatched from the nits.

When hens are sitting they should always be allowed a dust bath—cinder ashes and fine dry soil are best for this purpose. Some people use lime, but this is dangerous, because if a hen rolls in lime just before the chicks are due to hatch, the lime out of the feathers gives the chicks sore eyes, and sometimes blinds them, as chicks' eyes are open before they come out of the shell, and, of course, they are moist. We have known as many as three blind out of one brood through the use of lime, so we always avoid putting lime in dust baths.

Some hens clean themselves much better than others with the dust bath, but it is always wise to give them a good dusting with our insect powder. We brought this preparation out for this purpose twenty years ago. This does not affect the chicks, and is used for large birds, cats, dogs, etc., and this last few years it has been used for horses and cows, as young animals, when poor, often become infested with vermin.

It must be understood that neither chickens, nor any other animal, can thrive when infested with vermin; and the feather tribes are most affected—in other words, they have more insects to torment them. There are hen flea, fowl lice, flat tick, and the red bug in the poultry houses, but with a

very little care they can all be kept down; in fact, three out of four can be exterminated—the flea, tick, and red bug. We have only seen two fleas in any of our fowl-houses for fourteen years. In hot countries, particularly in South Africa, there are sand fleas, which torment the fowls considerably, as they stick round their eyes in clusters.

The perches in the fowl-houses should be paraffined this month, at the ends where they fit in the sockets, and oil should be poured into all crevices. Perches should never be nailed; because, if they are, it is impossible to keep the vermin down, as lime-washing the house does not kill the red bugs. Paraffin, however, settles them at once. We may mention that where perches are nailed and taken down, they should be taken straight out of the fowl-house, and the place where they rested saturated with paraffin, otherwise the vermin seek out new quarters.

It is very easy to destroy red bugs in winter, and up to the end of April, but the first real hot day, when the sun shines on the house, the red bugs go all over the inside and in the nests. It is much more trouble to destroy them in the summer: it is then necessary to have a syringe, and spray the inside of the house, especially in the corners.

Those who have pens of fowls, and find the eggs from them are not fertile, should change the stock bird, in order to produce winter layers; and it is not too late to start a fresh pen for the same purpose. When a male bird is put with the hens, and they have not been impregnated by another male bird, most of the eggs can be relied on by the fifth day, providing the male bird is active, and we have had chicks hatch from eggs which have been laid on the third day.

MAY.

This delightful month is one to which all those who dwell in the country, whether poultry-keepers or not, look forward, for the fresh green of the foliage which abounds on all sides at this period.

The weather is usually more settled than during April, but those who have chickens which are quite young would do well to make provision for those cold spells which invariably come, sandwiched in between spring-like days.

The weather is occasionally particularly changeable, and while it is frequently spring-like, poultry-keepers who have small broods out at times experience a good deal of anxiety, as the young birds feel the cold much more after sunny days than when the weather is uniformly cold.

It is most essential that the chicken coops should be secured round, so that the wind does not blow right in on the birds, and that as much shelter as possible be provided for them to feed in front of the coop.

In May there are frequently sharp frosts in the early mornings, and the chickens run out on the grass as soon as the slide is taken from the front of the coop. This, however, does not hurt them in the least, as long as they are sheltered from the cold, biting winds, like those we have early in April.

Some people have mishaps with their eggs, and where complaints are received we have always met them, and given them other eggs, and every poultry-keeper who sells eggs should do the same, to encourage poultry-keeping.

When we test the eggs which are unfertile, we find they are from the best layers, and the hens which have been laying a long time.

Those who have plenty of land for rearing chickens should take the younger chickens right away when other bigger birds are running with them, and after May comes in disperse with the bottoms in the coops, and these should be moved every day.

The coops should not on any account be moved first thing in the morning, and this is where a great many people make a mistake, but should be moved when the grass is dry, and supposing it is a wet day, it is better to let them stand two days, but if the ground is too wet for the chickens, then a little chaff should be put on the damp ground.

It is a great mistake to allow a hen to take her chickens far afield when the cold winds are blowing. Thousands of young chickens are lost through the adoption of this plan.

Up to May we do not ever allow a hen to run with her chickens until they are three weeks old, and even then do not do so for a week or ten days, as if so, the hen takes them too far, and does not brood them as much as they require at this age, but takes them through the wet, dewy grass in the morning, the weaker ones die off, and then people say that their chickens do not seem to do, as they lose so many.

Farmers and others who have a small orchard or kitchen garden should utilise this for chicken rearing. In a kitchen garden, coop the hens in the path, and let the chickens run over the gardens, and they will thrive and do well, and clear off many insects and grubs.

We keep our chickens in a kitchen garden till the middle of March, in preference to putting them on grass.

The motto of those feeding their young chickens should be "little and often," as birds thus fed make much more progress

than those which have their food thrown to them in large quantities.

The chickens during the first month should be fed on the special chicken meal and groats, on which food they thrive splendidly, and after this on biscuit meal and small wheat.

Care should be taken that the young birds do not get the grain fed to the hens. This is easily arranged by feeding the hens at the same time as the chickens, and putting the food for the chicks right out of reach of the hens.

Losses amongst chickens are less rare when they are given unremitting attention when quite young.

Many people who are wishing to raise some very good birds wait until May to procure the eggs, because the eggs from prize birds are reduced in price during this month, and brought within the reach of many who cannot afford to pay the prices charged, and which are necessary to regulate the demand.

It is by far the least expensive method of getting good birds, to purchase eggs, and raise the chickens; as eggs can be obtained at from 1s. to 1s. 9d. each now, from birds which could not be bought if £20 per head was offered for them. The chickens raised in April and May are just as valuable for the winter shows as those hatched earlier in the year: in fact, are in better condition for the November events than those which are out before. To get chickens ready for these shows, it is advisable to feed them specially well during the first two months, and to keep them growing all the time.

To get cockerels for fresh blood to produce utility birds, too, it is a good plan to purchase eggs during May, as they are to be depended on better now than the weather is more

settled for the stock birds, as in windy weather the male birds are not as they would otherwise be, unless provided with scratching sheds or covered runs to their houses.

A mixture of Sussex ground oats and milk once or twice a day is very good for the birds, and the variety thus provided is conducive to quick growth. At the end of the month they should have biscuit meal scalded and mixed with middlings—two thirds of the former to one third of the latter; and Sussex ground oats and middlings for alternate feeds throughout the day, finishing up with small wheat of best quality.

It is most essential that the chicks should have really sharp flint grit from the time they are hatched, as this helps them to digest their food properly, and when they have this grit they get the full benefit from their food without any delay.

Fresh water should always be given to the birds twice a day, and the water troughs kept perfectly clean. On damp mornings a sprinkling of roup powder in their food is very helpful to them, and prevents them from taking cold, which they would otherwise do.

Sitting hens and their nests should be sprinkled with insect powder to keep the vermin from breeding. If insects are allowed to collect on the chickens their growth will be retarded, and it takes them a long time to get over it, and so weakens them that they often breed worms, and we are of opinion that in many cases extreme weakness caused by the vermin is the reason for worms.

When young chickens commence making a piping noise, as though they were uncomfortable, they should be examined at the vent, as in many cases the passage becomes stopped

up, and after suffering much agony, the chicks die. When found in this state, the dry excrement should be removed by bathing with a little warm water with a piece of soft sponge, and a little vaseline or salad oil should then be applied, after wiping the parts dry.

Should chickens begin to drop their wings, their mouths should be examined at once. One chicken that is all right should be caught at the same time, then it can be seen in an instant if there is any difference in the mouth and throat. If there are any small white spots, they should be touched with a little roup lotion. Should the mouth be full of white ulcers, and the chicks are common ones, they should be killed at once, but if valuable it is worth while trying to cure them, as this can often be done.

It is diphtheric roup the chicks have when the spots are of a yellow colour. When the spots are quite white it is an indication that the blood is over-heated, or the digestive organs are out of order. When this is the case, the spots should be touched with a feather dipped in the roup lotion, and give the chickens a little salad oil and a few small pills made from the roup powder.

It is a good thing to give them castor oil in their soft food when they show these symptoms, which should be given in quantities of one teaspoonful to five chickens at three weeks old, and if roup powder is given at the same time it prevents the chickens taking cold. This treatment will stop the complaint spreading, and cure those in which the disease has developed.

Green food is most essential to the well-being of young chickens. Where poultry-keepers have no grass runs, they

should sow lettuce seed, or mustard and cress, barley, oats, or wheat in shallow boxes. If well watered, and the seed sown on successive days, a continual supply of green food could be obtained, which will help to keep the young birds in health.

Care should always be taken to see that the green food given is quite fresh and crisp and finely chopped, as unless this is done the birds do not thrive as they otherwise would, and it is possible that a stoppage be caused by this.

Those who have grass-land, should not put their young chickens on it during the latter part of May and in June, when it grows fast, provided that the rainfall is satisfactory, unless they have sheep upon it to eat the grass down nice and short, as it is harmful to young chicks to run on grass which is long.

They frequently succumb to inflammation of the lungs, and to other disorders, through getting wet in the long grass, and it is not good for them to eat the insects which are found on the long blades of grass, although this is quite ideal for stock birds and ducklings, which eat a lot of grass, and are certainly not nearly as subject to inflammation of the lungs.

JUNE.

The treacherous winds and frosts of the spring having given place to better weather, we feel sure the influence of any bad results poultry-keepers may have had having been borne in upon their minds by the losses they have sustained, more than once, with regard to sheltering the chicks, will help them in other years to do better.

Poultry-keepers should take care of any fine broods they

have hatched out, and see that they are not taken by surprise should a storm perchance sweep over the country side.

Care must be taken to keep the young chickens out of the long grass, and particularly if it is wet. This gives them cold so soon, and all sorts of evils are likely to arise, such as diarrhoea, roup, and other diseases that are sown in that fatal chill and wet and clammy condition of body which a thorough wetting reduces a chick to.

Care must also be taken, or any sudden change, either hot or cold, will upset those chickens which have left the hen, as these are comparatively unprotected and are not sufficiently strong to bear the strain such changes put upon them.

One thing must be guarded against if the chickens are to do well; and that is, little chicks must not be allowed to roost with the older birds, as this stunts them in their growth, and is fatal to their proper development into strong, healthy birds.

Should any of the young chickens be looking rough in feather and drooping, they should be caught and examined, as this state of things is generally a sign of the presence of vermin, often in large numbers. Chickens will never do well if infested with such pests as these, and it well to dust them with insect powder at once, so as to relieve the little things of a cause of much weakness and constant irritation and loss of power.

It is a capital thing to give chickens nettle tea. This is made by boiling up stinging nettles, and giving the birds the liquid in which they have been boiled. Of course, town poultry-keepers cannot get nettles so well, and these should

substitute Epsom salts, a teaspoonsful to every ten birds once in ten days. This cools the chickens' blood, and prevents many very tiresome affections, such as feather plucking and other irritant affections that so often pester people who keep fowls in confined runs.

Where covered or open runs are used, perches should be put up, about eight inches or two feet above the bottom, as the birds like to sit on these and plume themselves, especially when the sun shines in on them, and this prevents them crowding together in little knots over the run, which is not good for them. Anyone who has been on a farm will have observed how fond the fowls are of perching on a gate, hurdle, or fence, and pluming themselves, as we have said; and there is a great deal of good in all these habits, which show the instinctive bent of the fowls towards healthy conditions of life.

Low perches are better even than these improvised ones, as hens often suffer from broken eggs in the oviduct, and fowls very often have bumble feet through coming down with force off some high point of vantage.

Poultry-keepers should carefully examine the crests of any birds they may have, to see that the vermin are not breeding in large numbers there. Very many fine chickens are carried off every year by the weakness caused by loss of blood, which these insects suck from the birds at various points.

The unwelcome fact that insects attacked birds in this way was impressed upon us while examining birds of this breed, when visiting an exhibition of this class of fowls, and we have since found that in many instances this state of things existed and was working sad havoc among the stock.

The fowls should have an abundance of green food during the summer months, as nothing cleanses the blood and gives tone to the systems of live stock like vegetable food of this description.

Where chickens are cooped out with the hens, move the coop every day, so that the hen is on fresh ground, and the chickens will thrive better for this.

The sitting season is getting on, but it is well to see regularly to the sitting hens, and taking care that they are lifted off each morning and a good feed of sound corn and clean water given, as sustained vitality means sustained heat, and sustained heat means success in incubation with hens.

Poultry-keepers who have fairly early chickens ready to kill, should kill them off during June, as people are willing to give as much money for a small chicken in June as they would for one half as large again later on. As soon as July sets in, the markets are better supplied and prices fall.

Farmers should always put their coops under trees, when they have any, and, if not, they should brush the hedge up and put the coop underneath the boughs. The chickens are bound to go into the hedge for shade.

When the coops are not put in or under the hedge they should be put at the back of straw or hay stacks; and those who have none of these, and have only confined runs, should make a light wooden frame with wire over and a piece of thin light white canvas over the top. During the day the chickens will do well under this from four in the morning till two in the afternoon. They will, by this means, get plenty of air, and will thrive nicely.

During this month the houses should be tarred or painted

outside and lime-washed inside, and the perches taken out and well saturated with paraffin to destroy all red bugs, and insect powder dusted on the birds to prevent any accumulation of insects.

All houses should have wire doors, or the ordinary doors left open at night, as plenty of fresh air is absolutely necessary. Chickens should be kept separated from the older fowls. They would do better in large boxes by themselves than in the houses with the older fowls.

Poultry-keepers should take every precaution to give plenty of sharp grit to their fowls, both young and old, and see that they have, about once every week or ten days, a dose of castor oil. An aperient is an excellent preventive of disease, and at this time of the year, when many fowls are discontinuing laying, the regular supply of sharp grit and an occasional aperient will prevent liver derangement.

A sharp look out should be kept for birds that have grown lazy and sleepy, as these birds are often in need of a little poultry or roup powder to pull them together.

The time of year is coming when plenty of fresh air may be allowed the fowls, and this should not be forgotten or lost sight of, as nothing helps the birds so much as plenty of exercise and an abundance of green and insect food, and the best of this is found in the fields and hedgerows. Where farmers and others have space they should let their fowls run over the ground.

When chickens are kept in confinement they should always have a good supply of green stuff, but those poultry-keepers who live in the heart of a town have a difficulty during the

summer in getting just what they require in the way of green stuff.

Those who live in country towns and the outskirts have no difficulty in this respect, as they can pull up a nice piece of grass by the side of the road; but some make a great mistake even in doing this. They pull up a handful of grass and throw it to the chickens, and these are so fond of it they swallow long pieces, which get matted into a little ball in their crops, and this frequently causes a stoppage. When grass is given to young chickens it should be first placed on a board or table and chopped up finely. They will then eat it and enjoy it, and it does them good.

Those who live in the country, and have to keep their chickens in confinement for several weeks, while the grass is long and laid down especially for hay-making, should cut up some young blades of grass, in order to provide green food for the chickens as well as the old birds.

Many people have now to shut their birds up till after hay-time, from the beginning of June onwards, and this is the only time they have to be kept in confinement the whole of the season.

Those poultry-keepers who live in thickly-populated towns, and rear chickens in confinement, in order to make a change in the green food for their birds, will find it a good plan to sow a little mustard and cress, barley, and oats. These can be sown in shallow boxes with soil $1\frac{1}{2}$ inches to $2\frac{1}{2}$ inches deep, and the green stuff is up in a few days. After three or four days' growth it is quite long enough for them, and will be quite sufficient for this time of the year. When one has not ground enough to grow such stuff, or even a place

to put the box in, it can be placed on the garden path or on top of the fowl-house.

When a little of the poultry manure is mixed with the soil, the green stuff grows more quickly ; then if it is cut off it will grow up again. When the boxes are put in to the chickens, and they help themselves, they usually pull it up, and it wants re-sowing.

After this time of the year several boxes full should be sown, and one box put down to the chickens, and all the soil requires is just turning out, and more seeds put in.

A mistake which is often made by those who live in towns, as well as in the country, is that the chicken coops and houses are shut up too closely at night. We would impress upon poultry-keepers the fact that, no matter whether adult bird or chickens, plenty of ventilation is required at night. An uninitiated visitor would be surprised on going into a fowl-house crowded with adult birds or large chickens, to find how hot the place is, especially if it is low. It must be remembered that we occasionally get very warm nights after June comes in.

There is nothing like an open coop or house, with wire or lath fronts to it for the young birds, to enable them to have plenty of fresh air, as when this plan is adopted the chickens grow much faster than they otherwise would.

Where convenient, a wire door should be put to the fowl-houses in place of the wooden ones, which are easily taken off their hinges and stored for use again in the autumn. There is then no fear of the birds being carried away at night.

Those who live right out in the country, and have a field or wood wired round, and are well protected from thieves and foxes, need not provide any houses for the fowls during the

hot weather, as a few perches put just under the trees or hedgerows will do just as well.

When one is rearing a lot of chickens it is better to put them against a large hedgerow, if possible, or by the side of a wood where it is convenient, as they are nicely sheltered from the sun during the hot weather.

Hens often drop off laying a great deal during June when they are kept in large numbers, but they should lay as many eggs during that month as at any time in the year, and they will do so if they are managed properly, unless, of course, they become broody. They are often overheated in the house at night, and this prevents them from laying as they otherwise would.

It not infrequently happens that some of the chickens in the foster mothers, or one or two in each brood under hens, do not make any progress, but show signs of general debility, often combining the lack of feathering round the head and neck, and when these birds are examined, their skin is very tight.

As tightness of skin in all animals is a sign of bad condition, this must be enquired into without delay, as it not only stops their growth, but indicates something worse. In the case of chickens, as with other live things, the cause is internal; and the skin has to be softened with vaseline or petroleum jelly. All preparations from petroleum of varied refinement will soften the skin, as petroleum penetrates even where water will not go.

As soon as a chicken becomes weakened through any organ not working properly, or being nipped up with the cold, worms begin to breed in the intestines, and 19 out of every

20 chickens, after they become a month old, are found infested with internal worms. Where these weakly chickens have been examined we have never known an exception to this rule.

However, a cure is possible if the birds have not become too bad.

When chickens are in this condition they eat a great deal more than healthy ones, and yet lose flesh, because the worms extract the nutriment from the food.

Not only that, but they also take the lining of the intestines, beginning with the mucous membrane, and gradually eat out to the end, if not stopped; so that eventually the intestines are denuded of their lining.

We have taken as many as 500 of these worms from one chicken, worms averaging from $1\frac{1}{4}$ inch to $2\frac{1}{2}$ inches long, and this from a bird $3\frac{1}{2}$ months old.

The best remedy for this condition is to give the chickens a fast of 24 hours. Nothing but water should be given them to drink.

Chickens a month old should then have one heaped-up teaspoonful of roup powder divided among four of them, and this should be mixed with a little fat and flour, either given in little pills, or mixed to a crumbly paste and thrown down to the birds, taking care that all receive a fair share.

When there are not many it is best to put the pills down their throats, but if a large number are affected it may be thrown down, so that they can pick it up for themselves; and some linseed should also be stewed, mixed up with the first morning feed, and in the place of the water the stewed liquid should be used, giving all the birds a liberal

feed two hours after the roup powder mixture has been given. This is not only strengthening to the chickens generally, but it also helps to cause the mucous to grow in the stomach and intestines more quickly than anything we have tried, and the skin becomes loose and pliable, and the chickens begin to grow.

We always maintain that "Prevention is better than cure," and we give our birds a little roup powder about three times a week in their meal, and occasionally a little stewed linseed in their food. This helps them to grow more quickly, and is better than any other preventive measure we have discovered.

When chickens are kept strong and healthy they are less likely to breed worms.

JULY.

When the weather seems to have settled in for summer, those living in the country frequently allow their young birds of from three to four months of age to have a free range out in the fields and woods—letting them roost at their own pleasure; but in order that there may be no losses should a storm come over, it is absolutely necessary that sound houses should be provided, so that when the rain is heavier than a shower, the birds may take refuge in them.

We cannot sufficiently emphasise the necessity of keeping the grass short where the young birds are cooped. During the last month we have met with a number of cases of serious losses through the chickens having access to long grass—as the deaths from chills and inflammation of the lungs have been most disheartening, although they could so easily have been avoided had our words of caution been regarded as sufficiently serious.

These losses make all the difference in the result of the year's working, and when unavoidable deaths occur, they must be considered as casualties, but when, for the exercise of a little care, they can be prevented, it is particularly to be regretted that they are not.

Instead of allowing the birds to run on long grass, they should be put on gravel paths or walks—or some of the long grass mown down to make a clear space for the little birds, and wire it off for them. Where one has many pens, it is well always to have sheep, where there are chickens, to keep the grass down.

Those who have only a few acres of land, and keep a few poultry for a living, should have a few sheep in, even if they let farmers put them in without payment, as this helps the grass, and the chickens also do so much better. This year should have taught scores of poultry-keepers the lesson to keep the grass short.

In many places the partridges and pheasants and other game have died off, and where a number of young rabbits are being reared, these die off quickly, because they cannot go out and get food, unless they get very wet.

We have tried the experiment of rearing chickens on the ground where there is no herbage whatever, and the birds have grown much faster than those that have been on the grass—in fact, they look different birds altogether. This may be very encouraging to people who keep a few birds in confined runs, and never have grass.

We have adopted this plan for two or three years with winter chickens, and reared them on bare ground, where there is no grass, and it has been so satisfactory that we do not

intend for the future that our young chickens shall run on the grass any more until they get a certain size.

Many poultry-keepers are like many other people, and are apt to think they know everything, but they should pick up a great many hints as they go on, and learn by experience. We find this the best method, and experience teaches as nothing else can.

Very hot weather may be expected during the next two months, and shade must be provided for the chickens. Those who have no hedges or trees to pen them under must have small wooden frames, covered with canvas on the top. If this is not done, they will find the sun will affect their birds more than the rain, particularly the smaller ones.

There is often a discussion between poultry-keepers as to which are the best houses to use for the poultry out in the fields. It really makes but little difference, as long as the fowls are sheltered from the wind and rain, what shape the places are or how they are built, but it is well to remember the old saying, "The best is the cheapest," as this is proved by all who invest in really strongly-built houses.

We would recommend farmers to have some of the houses which are on wheels, built longer than they are wide, so that they can be drawn through gates easily without knocking the posts down.

On a large grass farm it is not necessary to trouble about having wheels on the houses, but merely a cradle to put the houses on, and they are drawn by a horse. When so many are required it comes expensive to have them all on wheels, but farmers should always have one or two, so that they can be drawn from field to field.

After the chickens have left the hens, and are put in a field which is being ploughed, there should be at least two of these houses, if three so much the better, then there can be one at each end and another in the centre.

As the ground is being turned over, of course there are many slugs, grubs, and other insect life, and the chickens will follow the plough and clear the ground of these pests.

Where there are several fowl-houses in one field, and they are some distance from home, it is a good plan to fix the corn-bin in the house on wheels, as it saves carrying the corn to the birds every day.

Farmers who grow corn should have a number of houses for their fowls out in the stubble fields. These should be 6 or 8 feet long, 3 ft. 6 in. wide, and 3 ft. 6 in. high in front, 3 ft. behind, wire front, and no bottoms. There should be a wire boarding door in the middle. The houses can be made with match or feather-edged boards. The roof should be $\frac{3}{4}$ -in. boarding, with felt nailed on the top to keep the wet out, and the roof should project at least four inches over the front.

The quartering should be $1\frac{1}{2}$ in. by $1\frac{1}{2}$ in., but the bottom pieces should be 2 in. by 2 in. When made in this way they are nice and light and can be carried about anywhere. The houses can be made either with or without bottoms. They should be moved every night, or every other night, and be turned round as the wind changes. Two perches should be placed from end to end, and put two or three inches from the ground, otherwise half-grown chickens are apt to crowd together at one end and get on top of one another; then they never do so well.

Those houses on wheels should always be made with plenty of ventilation at the two highest points of the house. The perches should be movable. There is one difficulty with houses on wheels. The chickens and fowls run underneath, and when it is windy there is a draught. To prevent this, there should be a small framework of boards round one end and two sides, or two ends and one side, as this provides nice shelter for the birds.

There may be a difficulty with the small lean-to houses with no bottoms where there are foxes about, as occasionally they scratch underneath, but that can be easily remedied by putting a small piece of wire, that is called tying wire, all round, about six inches from the ground, and one piece is quite sufficient, and it can be fastened round four pegs. The latter should be placed six inches from each corner, then, if the birds are shut in at night, the foxes will not touch them, because the moment their feet feel the wire they run off, and never come to that place again.

Some people merely draw the house just inside the field and let it remain there for two months. It should be removed after being there two weeks further into the field, so that the fowls are able to spread all over the ground. Where there are a number of late hatched chickens the hens should be cooped for a few days in the field, then allowed out all day. They will take their young family back to the coop at night, and they are no trouble, requiring no food given them, only water.

All farmers should bear in mind that they have every opportunity of making a success of their poultry, and many have found that to keep poultry upon the grain brings a

better return than sending it to market, and this has helped them to better financial results, which are not now so easily obtained as formerly in agricultural matters.

Now for the consideration of work which must be done during this month.

There is nothing like being prepared for the changes in temperature, and there are a few regulations which must be strictly adhered to during July and August.

To begin with, those houses which have not already been lime-washed, should be done now, care being taken to use plenty of liquid disinfectant in the lime. The unslaked lime should be put in a pail or bucket, with a little water in, just to slake it, so that it all rises up like a hot steam powder, then the water should be mixed with it ready for lime-washing. When it can be put on hot in this way it kills all germs, whether of insect life or disease.

Many people use lime which has been slaked for a long time, but new lime is far better. By this we mean the unslaked lime, as when once it has been slaked it never gets hot again. One dressing when the lime is hot and new is worth three times as much as when it is cold and slaked.

In all cases the perches should be movable in the fowl-house, so that they can be lime-washed underneath where they drop into the socket. It is really best to use tar and paraffin mixed to do the perches, not only underneath, but the whole of the perch, then there is no fear of vermin gathering there. Sometimes there are cracks in the perches, and when the wood gets dry they open and make a lodging place for harbouring the vermin. These should all be stopped up with putty or thick lime, or anything which fills up the

cracks, so that they are perfectly level—or done away with altogether, and new ones put in.

We have written for many years against using perches with the bark on, and yet we find many people with old-fashioned notions still use them. We often ask them why they do this. Sometimes we are told it is because the birds can hold on better with their feet if the rough bark is on, while others say it is natural to leave the bark on the wood, as they argue when fowls or pheasants sleep out in the woods they sit on the branches, and the bark is there.

There is absurdity in this argument, for when fowls sit upon the trees, in ninety-nine cases out of a hundred the trees or branches are growing, and the bark is green, therefore the sap runs between the bark and the branch, and if the vermin were to get under the bark they could not live in it.

Then, again, the trees are outside in the open, and the branches are exposed to the frost and wet weather. The probabilities are if the branches were alive which the fowls were sitting on, there would be very few vermin exist long, on account of them being exposed to all weathers.

It is different altogether in a poultry-house where the bark is on the perches. Thousands of vermin gather under the bark, and irritate the fowls during the night, then in the daytime most of them get back to their hiding-place.

The perches should always be perfectly smooth and clear, so that there is no opportunity for the vermin to corrode there, as these pests breed very fast in hot weather, and to make sure that the perches are all right, it is well to give them a good soaking with paraffin oil all over, as this will not hurt the fowls in the least.

We have often seen black varnish recommended in the place of tar for the outside of the poultry-houses, but it is more than four times the price of tar. If some paraffin is mixed with the tar, it answers just the same purpose. We have tried both, and like one equally as well as the other. Poultry-keepers who use tar should have a bottle of paraffin by them, so that they can keep on adding some to the tar.

It is not necessary to make the tar hot, as some people do, when the paraffin is used, as it dries much quicker than even hot tar, and does not stick to the hands when passing through the gates and doors.

When tarring a new house, a good deal of paraffin should be used, as it causes the tar to soak right into the wood, which not only preserves it, but keeps the wet out. Creosote is now preferred by some, as the dressing penetrates well into the wood, and its lighter colouring harmonises well with the surroundings of the country.

All the male birds should be well examined this month, as they are usually covered with vermin round the abdomen and tail. They should be caught and well dusted with insect powder.

The powder is especially prepared for fowls, all kinds of birds, rabbits, cats, etc., and will not hurt the skin, and it is not poisonous to them, but the vermin it destroys quickly.

At this time of the year people will find a large number of mites round the heads of both hens and cocks, and, unfortunately, many of the young chickens also, and for these our ointment—specially prepared for destroying any such—should be used. A small bottle of it is sufficient to dress fifty birds, and we may mention here that, although the insect

powder will destroy all vermin, it has no effect upon the nits, wherever they may be. The latter are usually found round the head and neck attached very closely to the feathers.

Every poultry-keeper who has had any experience must know their birds cannot thrive if covered with these pests. Should they be neglected, even for one month, the fowls become stunted in their growth, and never develop so well.

The best way to dust chickens and hens with the powder is to place a sheet of paper on the table and lay the bird on its back on the paper, and dust it all over, rubbing the powder well in so that the whole of the skin is covered, then knock the loose dust off the outside of the feathers, then turn the chicken or hen over and serve the back the same, after which the loose powder can be placed in the box again.

It is rather a slow occupation where there are a number of birds infested with insects, but unless they are seen to, it weakens the birds very much, especially chickens, and not only so, but when the latter are so weak they are more susceptible to diseases, viz.: colds, roup, or consumption, which some people call going light, that is to say, the chickens eat well all day long and yet do not put on flesh.

The nest boxes require supervision during the hot weather, as when the eggs get broken in the nest vermin soon accumulate, unless the broken eggs are removed. On large plants we always recommend dust for the laying boxes: any nice soft, light dust will do, such as dust swept from the road, sand, or very dry earth with no stones in; wood ashes answer well. Where one has only one or two nest boxes, it is an easy matter to keep replenishing with fresh hay or straw.

When the latter is used, the nest boxes should be lime-

washed all over inside, just the same as the poultry house, but when dust is used vermin is not likely to corrode.

Overcrowding during the hot weather must be particularly avoided. It is far better to kill some of the old stock, as the birds must be got rid of sooner or later.

When a poultry-keeper has only a limited space, any hens coming broody which are intended for killing should be taken off the nest the first night. It is a great mistake to allow them to sit a few days, as the flesh becomes very stringy, or, in other words, they are out of condition, and are really not fit to kill.

It is better to dispose of them two or three days before they leave off laying than leave them on the nest for two or three days, as it spoils the flavour of the flesh, and the latter is not so juicy. Old hens can be utilised for eating purposes just as well as young chickens, if they are only cooked properly.

There is an old superstition amongst poultry-keepers that chicken hatched in June and July do not pay. This may be true in some cases, more especially when chickens are reared in the old-fashioned way—allowing them to run with earlier hatched chickens of all ages. It is better not to hatch at all unless the late chickens can be kept separate.

We knew of many hatched in August and September in recent years which laid at the end of February and beginning of March. Many of the June chickens were laying by Christmas, and those hatched in July started laying in January.

Those who have been unfortunate in hatching need not be afraid to try again. In the first place, the eggs are much

cheaper, and the chickens grow equally as fast till the cold weather comes on. The only thing is, late-hatched chickens never grow quite so large as the earlier-hatched ones, but they make equally as good layers, especially if mated with good birds and older males than themselves.

The pullets are fit to breed from in March, which is quite early enough, as a rule, for eggs for the following winter. They usually commence to lay at six months—the majority of them do, at any rate; unfortunately, many of them start before they are five months old.

Those who are fortunate enough to possess a wood or plantation would do well to utilise it for their chickens (if there are no foxes about), as they thrive and get on so well where they can have a run of that description; especially where there are currant and gooseberry bushes, the latter afford a nice shelter for the chickens. The young ones especially do well, as there are so many green flies about.

Those who have tried this experiment find it is not only good for the chickens, but is also a great benefit to the hop gardens, as they eat the green flies as they fall from the bine, and also help to clear off the slugs and wireworms. The latter are very injurious to the young hop bines.

Chickens which are old enough to leave the hen, or those over two months old, which can be secured against foxes and other vermin, should be allowed to sleep out all night on perches about 2 ft. from the ground. They do much better if kept out at night, especially during the hot weather, and it saves the expense of providing houses.

We would emphasise the necessity for keeping the chickens cool at night during the summer. It is never wise to let

them go to roost in the fowl-house with the hen at such a time; indeed, if they do, they are often eight months before commencing to lay.

Those poultry-keepers who can manage it should provide wire doors for their chicken houses, so that they have plenty of ventilation, or put them in an open shed with a wire front. It is always well in such a case to have a yard dog.

When young chickens are not doing as well as they ought to, it is a good thing to give a little roup powder in the soft food about twice or three times a week, as this brings them round wonderfully. Some people prefer the poultry powder for this purpose, but we use the roup powder when they are drooping or out of sorts, as it brings them round more quickly.

Where the poultry and roup powders are used, it is very seldom gapes appear. Of course, the powders need only be given till the chickens get large and strong, then give them food only, but when a sudden change upsets them, a little of the powder soon puts them right. We are pleased to say these powders have been the means of helping many people to rear chickens successfully where in previous years they always failed.

Where poultry-keepers go in for exhibiting at the summer shows, the roup powder is an excellent thing to use for getting the birds into condition, as it imparts a splendid gloss to the plumage. It is used very largely amongst breeders of all kinds of birds.

AUGUST.

When the summer season is hot and dry, the weather is more favourable to poultry-farmers and keepers than to those

who are engaged in ordinary farming, and this is particularly the case in connection with young turkeys, for, as all breeders and rearers of these birds are aware, they do much better if kept out of the wet altogether. Allowing young turkeys to get wet in the showers of rain causes the death of a large number of them, as colds develop quickly into roup, resulting in the loss of that strength so necessary to the progress of the birds.

When the summer heat is phenomenal, it results in a very bad year for those who reside in the country and are dependent on the rain for water for all purposes. In some cases where poultry-keepers and farmers live in out-of-the-way places, we have found they had to fetch the water for their family and all their stock some miles, resulting in a short supply for their poultry.

It is quite time that poultry-keepers made up their minds which of the early-hatched cockerels are to be killed. Those with weak legs and any defects should be killed or sold off, as they will be useless for early breeding.

When there are many young chickens they should not roost in closed poultry houses, but in open sheds, when they are available; and where there is no fear of foxes or thieves, a few perches can be put up in the run, and where there are trees it is best for them to roost up in them.

It will not hurt them at all to sleep out, but will induce quicker growth than amongst those confined in the house at night. The birds must be coaxed into the house by the end of September or the beginning of October. Fowls which are allowed to roost out altogether are much healthier than those in the houses, but when allowed to roost out one

night and in the house the next they are sure to catch a cold. Hens which roost up in the trees all the winter very rarely have anything the matter with them, but they do not lay many eggs.

Those who have a lot of stock cocks and are rather short of room would do well to put a number together; twenty or thirty can be put in one run if they are where they cannot see any hens. They should be watched for a little time until they settle down, but they rarely hurt each other. We have seen fifty running together, and not one of them has been hurt.

All stock cocks should be examined for vermin—looking from the end of the breast bone to the tail, as this is their favourite position; then dust well with insect powder, as they cannot thrive with these vermin on them—they soon droop and die.

A dust bath should be placed in the sun, where possible, if there is no moss peat in the house or covered run. We do not provide our fowls with any dust bath, only the peat moss in the houses; sometimes we add road dust to this, and the fowls thoroughly enjoy themselves in it. It is light and dry, and they can bury themselves, whereas other materials, such as ashes, dust, and lime, either mixed or separate, get beaten down into a solid cake. The peat or dust should be forked up occasionally, then the fowls take to it better.

This is very essential to their well-being. It is usually very hot during August, and the young fowls and chickens should not be fed on food which is too stimulating, otherwise their blood becomes over-heated.

Early pullets fed on too stimulating food shed their feathers

the same as the hens. They should be fed on wheat and *dari* chiefly—barley, French buckwheat, and maize should not be given.

A hen can lay eggs and moult at the same time much more easily in August than she can moult without laying eggs in October or November, on account of the weather being much more favourable to the process. When they are kept well, the laying and moulting this month will not hurt them, but do them good. They should be well fed and have poultry powder in their food.

Those who want to moult their exhibition stock early should use a little roup powder in their food, whereas those who require them for laying purposes only should use the poultry powder, as this not only strengthens the birds, but acts upon the egg organs.

The roup powder is an excellent tonic, but does not act upon the laying organs, yet keeps the birds in good condition. It is largely used for turkeys and pheasants, and is excellent in bringing them through the wet weather. Shade the water from the sun as much as possible, and give them a fresh supply every day.

When late-hatched chickens are not doing well, they should have some biscuit meal, groats, and hemp-seed. A change in their food will often give them a start. When they cough and sneeze, or run at the nostrils, mix a little roup powder in their food, as this will soon put them right.

When they do not eat, be sure and examine the mouth to see if there are any white specks therein—if so, it is diphtheric roup. If there are weakly ones and strong ones on the same place, kill the affected ones off at once and bury

them. If one has only a few, they can be got round all right.

Hens which are required for winter laying should be moulted out now, and this process can be facilitated by placing them in warm houses and feeding them in the morning on hot soft food, and boiled corn at night, as this causes them to shed their feathers quickly.

On wet days the hens should not be allowed out in the open runs at all, but should be kept in the covered runs, and by the beginning of November these birds will be fully feathered and laying well. Male birds should not be allowed with the hens while they are moulting.

When fowls are shedding their feathers they require special feeding and care. The food given to these birds must provide an excess of nutriment, and above that required to keep the fowls in good health they require material to provide for the drain on the system, due to the formation of the new feathers—as well as some of the sustenance of the egg organs.

Hens which are moulting are usually very mopy, and prefer to remain in the house part of the day. The same remarks apply to January and February-hatched pullets, which, as most of our readers know, generally moult the same as old hens during the autumn months. The pullets appear to feel the strain less than the hens, and as a rule lose their feathers more gradually, as some drop the new ones can be seen—and they rarely present that ragged appearance so well known to those who are accustomed to moulting out a yard of old hens.

Moulting fowls require to be fed liberally, and we do not know of any better food than the poultry biscuit meal, which

should be scalded by having boiling water poured over it, about five minutes before the fowls are to be fed. Plenty of water to cover the biscuit meal should be used, and if the bowl or utensil used is covered with a thick cloth the steam will be retained, and the meal will swell much better than if uncovered.

On alternate mornings the birds should have the biscuit meal given to them alone, and on the intervening mornings half biscuit meal and half good middlings should be given.

After the birds have been fully satisfied with their feed of meal, which should in all cases be given quite warm and fed in troughs, during the autumn and winter they may have a few pieces of meat given to them with advantage.

When the birds moult early, it does not weaken the system so much, as they do not encounter the cold weather when least prepared for it. It is a good plan to give them sulphur in their food about two or three times a week. Hens are apt to learn the unfortunate habit of feather-plucking when shut up to moult, as the young quills are just shooting, and it is a great temptation to the birds, so on the first signs of a development of the desire to pluck feathers, the beaks of all the birds should be cut, which is done by removing the sharp horn from both sides and points of the beak with a penknife.

Those who have a lot of rough hens, and intend killing most of them before the winter comes on, and yet desire as many eggs as possible from them, and to keep them in good condition, should use poultry powder five times a week. This will not injure the birds in the least, but will strengthen them.

Hens which are cleared off to make room for the chickens

should be noticed closely. As soon as they leave off laying, and commence shedding their feathers, they should be killed off at once; if, however, they fill their crops they should not be killed off, this being a sign that they will lay another batch of eggs. When the comb loses its redness and gets smaller, they should be killed. It is well for poultry-keepers to know just when to kill off their hens.

Twenty or twenty-five fowls are often kept, which if sorted over and only the layers kept, as many eggs would be produced by half the number as from the whole of them. All food given to good layers is utilised, but that given to bad layers often develops disease in the early autumn, specially in the egg-organs, which get clogged with fat, while they frequently rupture themselves.

Those who intend selling off their hens and cocks for a trifle should not be in too great a hurry, as a two-year-old hen has more flavour and nutriment in it than a three months old chicken, when in a good condition and cooked properly.

When birds are killed as early as August they cannot hang long, as the flies get at them, and to make up for this they should be boiled a little longer, but in no case should they be boiled quickly. If care is not taken, very sharp knives will be required, or those who sit round the table will be disappointed over the result of the meal, and no doubt the question would be settled in their own minds whether they have had sufficient fowl for a little time or not! Now this disappointment can be avoided if they are cooked properly, and there is no reason why these should not be as nice as young chickens; in fact, some of them are of a much better flavour when not over two years old. When the weather per-

mits they should be hung from five to seven days before being cooked, and this has the tendency to make them more tender. The birds should be boiled, for if roasted they are too tough, unless gently boiled for two hours and then roasted, in which way they are made very nice. Hens should not have less than two hours' boiling, and should stand on a dish (after being taken out of the water) for about ten minutes, to allow the surplus moisture to evaporate, then put down to roast, taking care to baste them well, and they are then as tender as a young bird.

A one and a-half year old hen of small size should be boiled for two hours ; if a large one, two and three-quarters ; two and a-half year birds, or older, three to three and a-half hours, according to size. In all cases they should be simmered, and not boiled fast, in just sufficient water to cover them, to which a little salt should be added. When too much water is used, it takes the flavour out of them, and when boiled fast they are tough, but if care is taken the old fowls have as much flavour as the young ones, and much more meat on them.

There is often a great deal of roup amongst the chickens during the hot weather. It is well to watch the chickens after they have been fed, as if anything is the matter with their mouths or throats, they will be trying to throw something up from their throats and moving their beaks as if tasting something, partly closing their eyes, and some will cough and sneeze. In a few days they will be in rough feather. When taken in time they can be cured, but if neglected, many deaths will follow. The poultry-keeper should always examine the mouths and throats of the chickens, as sometimes

they have white spots there, and yet not have the roup, but is due to over-heating of the blood. When boiled nettles are given twice weekly the danger is removed, for when they have these all along the spots do not appear, but if they have already made their appearance they must receive immediate attention to avert loss.

The roup lotion is the best thing to apply, but if the poultry-keeper has none of this available, he should put one teaspoonful of water to one of alum, and the mouth and throat should be well saturated with this mixture with a little mop, which can be made with a small piece of stick and a piece of sponge, until the lotion is obtained.

When alum is not to hand, a little turpentine may be used, as in some cases this does good. No matter what is used, a little salad oil should always be poured down the throat from the bottle or a teaspoon.

Give some roup powder, and change their food for a few days, and feed sparingly, so that the chickens come readily when fed, and not turn away as though they were in search of something other than that which is given to them.

Always catch a chicken when it looks rough in feather, and thoroughly examine the body for vermin, and the mouth and throat, in case anything is the matter there.

It is a good thing to mark those old birds which are to be cleared out by putting a gutta-percha ring on one leg; then there is no fear of the wrong one being killed, as the appearance of the birds changes so quickly at this time of the year. Well-bred stock cocks should always be taken away from the hens now, or only have a few with them, and especially if they are to appear at the autumn shows.

The young cockerels should not be killed off too early, and those which are likely to make good stock birds saved until fully matured. Those which are defective—wry tail, crooked breast, high in the back, bad comb—should be killed off—the sooner the better, so as to make room for the pullets and the remaining cockerels.

The importance of good ventilation must not be overlooked, as the fowls cannot have too much during hot weather, it being necessary to study both young and old birds in this respect. The young chickens and ducklings should not be cooped in the hot sun, and older ones should be kept out of it as much as possible.

SEPTEMBER.

As a rule, poultry-keepers are in a very happy mood in September, because of the progress of their young birds.

The young cockerels sold for the table have fetched good prices during the last year or two, and the sum realised for eggs has been particularly gratifying. Poultry-keepers are now coming to the commencement of the winter work, which consists in laying the foundation for next breeding season, and in making the most of the birds reared, as the result of the matings in the spring.

Hatching operations are now finished; and a good many of the early-hatched male birds have been disposed of by those who rear poultry for table purposes, combined with the production of eggs. In most cases, the majority of the pullets hatched have been reserved by the rearer for himself, either for egg production during the coming autumn and winter, or for sale to those who have not got the inclination

or accommodation to rear their own birds for the production of eggs.

There is always a ready sale for young pullets which are reddening up for laying, because of the demand for really new laid eggs; and although it pays better to keep the pullets for one's own use, the ready money obtained from the sale of the birds is always acceptable.

At this time some of the earlier-hatched pullets are reddening up for laying, but as eggs are not worth as much in September and the beginning of October as at the latter end of October and during November and December, it is well worth the trouble of those who have these young birds to keep them back from laying for the present; as when they commence to lay, their eggs will be much finer than if they are encouraged to lay them now.

Before the chicken coops, which are not now in use, are put away, they should receive, first of all, a good coat of white-wash inside, and then paint or tar outside, to sweeten and preserve them for next season. As the weather is now less settled, the first sunny days should be used to overhaul all coops and prepare them for storage, as then they dry quickly and well, and are much less trouble than when this task is deferred. All fowl-houses should also be whitewashed and tarred, if this has not already been done.

We would specially advise our readers to examine their birds for vermin. During the past few weeks many fowls may have become badly infested, and in this condition it is impossible for either young or old birds to thrive. In some cases the young birds have also been troubled with nits, and, consequently, have been in a poor condition, with very

little life. The insect powder should be dusted over the birds, and when nits are found an ointment made of two-thirds of this to one-third of vaseline, well mixed, should be rubbed into all parts where the nits are seen.

As soon as the weather has settled into autumnal coldness, care should be taken to treat those fowls which have a running from their nostrils directly their condition is apparent. A feather dipped in paraffin should be inserted up each nostril, and a fresh feather, also dipped in paraffin, should be used to cleanse the birds' throats. A dose or two of roup powder added to their soft food will prevent any development of roup, which would certainly interfere with the profit from the birds.

Hens which are required for winter laying, which have not moulted, should be assisted to do so now. This process can be facilitated by placing them in warm houses, and feeding them on hot soft food in the morning, and hot boiled corn at night, as this causes them to shed their feathers quickly. On wet days they should not be allowed out in the open runs at all, but should be kept in the covered runs or houses; and by the commencement of December these birds will be fully feathered and laying well. Male birds should not be with the hens while they are moulting. It is much better for the cocks to be put together in a run after the breeding season, if they are not specially valuable, but if they are, then each bird should have a small run and house to himself. The vitality of the male birds is greatly impaired by being allowed to run with the hens, and the latter moult better when they are alone.

When it is intended to breed next season from the pullets

hatched in the spring, it is a good plan to keep them separated from the male bird until they are fully matured, as they are then less likely to lay than if running with cocks. The owner reaps the benefit of this, as the birds develop into finer fowls, and when they commence to lay their eggs are larger than if they had laid earlier.

When fowls are shedding their feathers they require special feeding and care. The food given to these birds must provide an excess of nutriment, and above that required to keep the fowls in good health, they require material to provide for the drain on the system, due to the formation of the new feathers—as well as some of the sustenance of the egg organs.

Hens which are moulting are usually very mokey, and prefer to remain in the house part of the day. The same remarks apply to January and February-hatched pullets, which usually moult, the same as old hens, during the autumn months. The pullets appear to feel the strain less than the hens, and as a rule lose their feathers more gradually—as some drop, the new ones can be seen—and they rarely present that ragged appearance so well known to those who are accustomed to moulting out a yard of old hens.

Hens which are partly over their moult should be kept active, if possible, and farmers who have fowls round the farm-yard should cover over some grain in the loose ground, or among the straw, as the exercise in scratching does them a great deal of good. Where the fowls are beginning to shed their feathers, such birds should be kept in a nice covered run, with wire netting in front, and some dry earth, dust, or peat moss—the latter is the best—should be put on the ground, and corn scattered in it, so that they have to scratch. In this way they are protected, and are kept warm and active.

Those who keep a number of fowls should have their birds in open sheds facing the sun; if not, while they are shedding their feathers they will get all together and pluck each other. The best plan is to put up a long perch in the open shed, and then they sit on that and plume themselves.

Moulting fowls require to be fed liberally, and we do not know of any better food than the poultry biscuit meal, which should be scalded by having boiling water poured over it, about five minutes before the fowls are to be fed. Plenty of water to cover the biscuit meal should be used, and if the bowl or utensil used is covered with a thick cloth the steam will be retained, and the meal will swell much better than if uncovered. On alternate mornings the birds should have the biscuit meal given to them alone, and on the intervening mornings half biscuit meal and half good middlings should be given.

After the birds have been fully satisfied with their feed of meal—which should in all cases be given quite warm and fed in troughs—they may have, during the autumn and winter, a few pieces of meat given to them with advantage. If there are not any scraps from the house, then some pieces should be bought from the butcher's, or paunches or lights may be substituted. The water these are boiled in can be used to mix the food with, and then the meat cut up in small pieces on a board, with an old sharp knife kept for the purpose, while the fowls are eating their meal.

Those who have not the time or the inclination to boil and cut up this meat, can use granulated meat as an excellent substitute. This needs scalding with boiling water only. House scraps, consisting of pieces of bread and vegetables,

should be chopped up small and put on the hob in an old saucepan with a little water to boil up for half-an-hour, before the morning meal is to be mixed—then these should be turned into the mixing bowl, and the scalded biscuit meal and middlings added, and mixed until it is all nice and crumbly. A sticky mixture should be carefully avoided, as fowls do not like anything which adheres to their beaks: so that the poultry-feeder should be careful not to get too much moisture in the bowl to commence with. After a little experience one can easily find out exactly how much is required.

In feeding the fowls, it is well to give them only a little food in their trough at once. It is an incentive to them to eat more when only a small quantity is given to them at a time, more being placed in the troughs as soon as the preceding supply has been consumed. To vary the biscuit meal, the special poultry meal can be used with excellent results.

Sharp flint grit should be added to the soft food three times a week, allowing a heaped-up teaspoonful per bird each time, care being taken to obtain really sharp flint grit. We are sorry to find that a great deal of the material which is sold for grit for fowls is quite useless.

The fowls should be fed in troughs with a rail on top, so that they cannot tread in the food, and if treated in this way they will go through their moult easily, and not even lose their redness; in fact, in some cases they will never stop laying. We have had Orpingtons, Leghorns, and Wyandottes lay right through their moult, and although exceptional, it is evidence of the extreme vitality of the birds.

It is a good plan to use some salt and sulphur in the soft food, one heaped-up teaspoonful of the former to eight or

ten birds, and one small teaspoonful of salt to about twelve birds—mixed with the food three times a week, and one teaspoonful of the poultry powder five times a week, this quantity being given to every six fowls.

Young birds just coming on to lay should be treated in the same way, and will give in return from 30 to 40 per cent. better results for such treatment. The salt seems to flavour their food and acts as a tonic, while the sulphur assists the growth of the feathers.

At mid-day the birds should have green food given to them, unless they are on grass runs—when they will have been pecking at the grass all the morning, and should have some corn scattered amongst the loose dust, in the covered runs—to provide occupation for them.

Green food for fowls should always be quite fresh, and in the case of large cabbage leaves the stems and fibres which the birds leave, after they have pecked off all the soft green leaf, should be removed from the run, as stringy fibrous matter is no use to fowls, and is apt to cause a stoppage, which in all cases should be avoided.

For the evening feed, the birds should have grain of good quality. Wheat can be given one evening and oats the next, and maize the next, and then wheat again. Maize is helpful during the moulting season—and it is well to give each kind of grain separately, and so avoid waste, which will invariably occur when the corn is mixed. Birds which have an ample supply of sharp grit will not suffer from inactive liver by having maize twice a week, but they would if not supplied with grit.

Then, again, the fowl-houses should not be crowded, as

unfortunately they frequently are at this time of the year. This should be attended to, as birds will not thrive if they are crowded into small houses.

Where people cannot avoid crowding the birds together they should provide a wire door and give all the ventilation possible. The old hens and cocks should be dusted over with insect powder at least twice while they are going through their moult. The insects will suck the nutriment from the feathers, as it has been discovered that wherever the tail grows weak and rough, it has been covered with lice.

It is very noticeable that at the commencement of autumn and winter the red bugs we have so often written about breed much more rapidly, as the grub or maggot that eats them off in the warm weather stops breeding in the winter, and so the red bugs breed and thrive without interference in the colder weather. We would therefore advise our readers to soak the ends of the perches in paraffin.

Old hens not required for the next year should be got rid of during the next month, but if they are in lay they should be allowed to finish, and then be killed directly, otherwise they get tough and stringy. By killing them at once they eat like a young fowl, if they are made to fast a few hours before killing. They should have their necks dislocated and then be hung up head downwards. This is the most humane method of killing, and the birds are dead in a second.

Young cockerels not required, which are fairly well grown, should be cleared out, so as to give early pullets and laying hens all the room they require.

Should any birds be roosting upon trees or out-of-doors, as some will, they should be coaxed into the house at the end of

this month. The door of the house should be propped open and a little corn should be thrown inside, and they will soon grow accustomed to their new quarters, and give no further trouble.

When any late-hatched chickens are not doing well, some biscuit meal, groats, and hemp seed should be given without delay, as these supply warmth and nourishment, and counteract the bad effects of the cold and damp weather.

In these hints for the month we very naturally emphasise little details which help every day to produce success or failure, just in accordance with the amount of care and attention that is bestowed upon them.

Some of the older folks are surprised at the idea of getting eggs during the winter months; but it is quite a feature of advanced poultry-keeping, and which serves to ensure the constant supply of good fresh eggs, even when, as a rule, these are scarce.

OCTOBER.

After a period of comparative inactivity in the poultry yard, October comes in, bringing with it the necessity for active preparation for the ensuing months which precede that joyous season to which English people in all parts of the world look forward for many weeks in the year.

The spring season is the sowing time, and the autumn and winter months form the reaping time in the poultry world, and those who have reared birds for egg production when eggs are fetching their best prices must lose no opportunity to get their birds into good condition for this purpose.

There are many who do not give their birds soft food in the morning, as they consider it costs more than hard corn,

and so induces loss; but this idea is a mistaken one, as fowls fed once a day on meal will produce, at least, thirty or forty eggs more per bird during the year—in comparison with others in exactly similar conditions which are fed on hard grain—and it must be remembered that these extra eggs are produced in the winter months with the breakfast of soft food, just at the time when eggs are most valuable.

One reason why soft food in the morning is more beneficial to fowls is that the hard corn takes a certain time to soak in the crop before passing to the gizzard, but the soft meal passes into the gizzard immediately, and, being quickly assimilated, the fowl is nourished at once, so that no time is lost, and the flesh or eggs are produced with less exertion than if hard corn were given.

It will be seen; therefore, that it pays better to give the soft meal once a day; and this in the morning, which may consist of almost any kind of meal, such as middlings of best quality, biscuit meal, or ground oats, and either of these may be mixed with sharps. The quantity of sharps must depend greatly upon the other meal used, but one part of middlings with one part of biscuit meal and one part of fine sharps makes a very good mixture.

Hot water should always be used for mixing the meal, or hot skim milk—where it can be obtained—is better, and during the winter months the food should be given hot, as this helps them in very many ways. Care should be taken not to make the food wet or sloppy, as it is not so good for the fowls when it is sticky and clings to their beaks.

Fat or scraps from the table are very good for mixing with the meal; and in the winter, if there are not many

scraps, it is a good plan to buy some liver, lights, paunches, or tripe to boil up for the fowls. A sheep's paunch may be had for twopence, and the tripe—nine to eighteen pounds may be bought for one shilling. This should be given to the fowls the last thing before going to roost, as they will greatly enjoy it, and eat it ravenously.

It should never be given, however, before the corn, or the fowls will probably show some preference for this, and eat the meat and leave the corn. When lights are given, the water in which they have been boiled may be used to mix the meal to advantage, as this liquid has a good deal of the goodness of the meat in it.

Some people have no time to boil and prepare this class of food, and these would do well to use granulated meat in the soft food, as this does not require boiling. Boiling water should be poured over the granulated meat first and then mixed with the meal when it is hot.

Spare cooked vegetables, such as small potatoes and greens, and pieces of fat meat may also be used, as when these are mixed up with good meal they make first-rate food. Turnips, mangel wurzel—in fact, nearly all vegetables, can also be used in the same way, especially during the winter months, when green food is scarce, and should be thrown down, after being cut in halves, so that the birds can peck at them raw, and they may be boiled and mixed in the soft food also, when there is a large garden providing a liberal supply of roots.

During the autumn and winter the fowls should have their morning meal as hot as they can eat it, and it well to give them warm water to drink first thing in the morning when the weather is cold, as, after drinking cold water, they will

often stand moping about on one foot, whereas the warm water seems to revive their whole system on a cold morning.

The poultry powder—advertised at the end of this book—should be used in the soft food three or four times a week: this helps them through their moult, and brings one or two-year-old hens on to lay through the winter, as well as the young pullets. When hens stop laying, or are not doing as well as they should, it is advisable to mix some poultry powder without delay, as this pulls them round, and they commence laying almost at once.

When the cold weather sets in, it is a very good plan to drive the birds back into the house for three or four hours after their warm meal if they have no covered run, and at twelve o'clock a handful or two of grain should be scattered amongst the moss peat on the floor—this being raked over to keep it light and in good order for the birds to scratch in.

After the first few mornings there will be little trouble in driving the birds in, as they get accustomed to the routine, and they will run into the house again as soon as they have finished their breakfast. They should be fastened in with a wire door, so that light and air may enter, and the place made and kept comfortable, the wooden door being left wide open.

The better plan, however, is to have attached to every house a covered run where the fowls may run in and be sheltered from wind and weather, and get plenty of scratching exercise. When covered runs are provided, the birds should be fed in them, and in this way are protected from the cold winds, which are likely to do them great harm on cold and windy mornings.

When these rules are carefully observed, there is no reason why eggs should not be produced all the year round, provided that poultry-keepers have followed our advice, and purchased birds from really good laying strains.

Biscuit meal is one of the very best foods to use, and it can be given alone or occasionally with other meals mixed with it. When biscuit meal is not used, some ground oyster shell, or flint dust, mixed with the meals already mentioned, helps them very much, as these furnish material for making the shells, and are far superior to the old mortar.

During this month poultry-keepers in all parts will be considering the advisability of purchasing the fresh stock for next season's breeding. Some will be requiring entirely fresh pens, and others a few male birds to mate with their present stock of hens, and they know from experience this is one of the best months to purchase early-hatched birds.

The birds hatched last year are now in moult, and purchasers have to rely on the goodwill of the sellers, as they cannot judge of the value of the birds in their present condition; but where they are bought from reliable breeders, no anxiety need be felt, as those who have their reputation to study are very careful not to send out any birds which would not reflect credit on them when they get their full plumage. Poultry-keepers will understand that they can purchase birds which are in moult much more cheaply when they have their new feathers, as breeders are glad of the runs they would occupy for their young birds, and frequently sell at several shillings per head less than they otherwise would.

It will be seen that it is a distinct advantage to purchase during this month both young and old birds.

NOVEMBER.

November is not a favourite month with many—its dreariness being proverbial—and the poultry-keeper knows that unless he has managed to get his over-year fowls well through the moult before it comes in, and his pullets reddened up for laying, the prospects of a good egg yield are very vague. Fortunately there are some poultry-keepers who, having acted on our advice, and moulted their hens out during August and September, can be sure of eggs, as these birds have either commenced to lay or are close to it now, and will prove to be particularly profitable during the months of November, December, and January.

It is only after the exercise of care at the end of the summer that this very satisfactory result can be obtained—and it is well worth while sacrificing the eggs which would be produced in August and fetch about a penny each, to get the hens through their moult quickly—just when the weather is favourable—and then to have eggs when they are fetching from twopence to twopence half-penny each; and to possess also the knowledge that by careful management these fowls will produce eggs steadily onwards.

We have been very interested when meeting those who keep a large number of birds, to hear of the great improvement in the poultry at the present time, compared with previous years, when the hens were not nearly through their moult, as this has resulted in the production of many eggs during October, and the prospects for November are much better. They make 2d. each in October, and 2½d. each in November. As a result of this, they have been able to greatly improve

their stock by the purchase of better male birds for each flock of birds.

The weather is trying for fowls of all classes now, but particularly for those which have not yet finished moulting. Fortunately, many have done so, and those hens which had their new feathers by the end of September are either laying or near to it, and, by judicious feeding, will soon be profitable. During November, December, and January, eggs for the table fetch higher prices than in any other months, so that those whose fowls are laying are reaping some return for their outlay.

The birds must be fed well during these months in order that they may not feel the effects of the cold weather, and that eggs may be forthcoming. House scraps and middlings, or biscuit meal and middlings, should be given for breakfast. There are many good laying fowls which are not treated in the right manner, and are therefore not as productive as they otherwise would be.

At this period of the year a hot breakfast is of great help to the fowls, as after the long night they have been on the perch they are very hungry, and require a nourishing feed, and this is very comforting to them when it is hot.

Poultry-keepers on a small scale generally utilise the house scraps for their fowls, but these are not used to the best advantage when they are thrown to the birds during the day. The better way is to keep a bowl specially for the purpose, and as the scraps accumulate, they can be placed in it until the following morning, when the contents should be transferred to an old iron saucepan, which may be used for the purpose of boiling up the house scraps. Sufficient water to

cover these should then be poured over, and the whole brought gently to the boil. If there are any pieces of bacon rind, or other substance that is likely to cause a stoppage internally, they should not be allowed to eat the same. It is a good plan to cut these into smaller pieces before they are boiled up. As soon as the mixture has boiled it should be poured into the mixing bowl and sufficient middlings and barley meal added to make it nice and crumbly.

Some poultry-keepers can profitably use their house scraps in this manner, but where there are a large number of fowls kept, some substitute for the nourishing house scraps should be provided, as really nutritious food is required in order to obtain eggs when the weather is severe.

Fowls require sufficient food to sustain them, and a surplus over this to provide nourishment for the egg organs. The necessity for this surplus does not seem to be realised by those who give their birds potato peelings boiled, mixed with barley meal of inferior quality.

For using early in the morning, the best method of preparing the biscuit meal is to scald it over night with boiling water in a pail or basin, covering the meal well with water, and then placing a linen cloth on the top of the pail to keep the steam in. If the cloth is folded several times all the steam will be kept in, and the meal will swell to about twice its bulk when dry. Then, next morning, some more boiling water should be poured in, and the middlings added, and the whole well stirred to make a crumbly, appetising meal for the birds. At this time of the year scraps of meat and fat should be added to the fowls' breakfast, and pieces of bread and broken vegetables can be used to advantage, added to the meal.

We have been asked whether it pays to feed fowls thus liberally in the winter months, and we have no hesitation in saying that it does, as many more eggs are produced by birds thus well fed than will pay for the additional cost of the food, and these extra eggs are all profit. In addition to the eggs, the condition of the birds improves. They are not made fat internally, as this food nourishes the birds and helps the production of eggs—but does not make fat.

It is most essential that the fowls have nutritious soft food, as well as the best of grain, as they do not require nearly so much when it is of good quality, and the results justify the outlay.

Now that eggs are wanted, shell-forming material should be supplied; and we do not know of anything as good for this purpose as flint dust, which, if mixed in the soft food, entirely prevents soft-shelled eggs, which are a source of loss to the producer, and frequently cause birds to become egg-eaters. When they have developed this habit a good many eggs are probably lost before the cause is discovered.

The flint dust is inexpensive to purchase, and most effective. A dessert-spoonful should be allowed for each bird, and mixed in the soft food on alternate days; and leg weakness will be unknown amongst the chickens, and shell-less eggs also.

It is time for fowls which are required to breed table poultry to be mated now, and birds for the production of exhibition stock should also be mated during this month. These remarks refer more particularly to the heavier breeds. Leghorns, Minorcas, and Wyandottes, are frequently not mated until February, and then produce good birds for the autumn shows.

Care should be taken to provide the stock birds with plenty of ventilation in their houses, and not on any account to overcrowd them. It is most essential to the well-being of the birds that over-crowding be avoided.

DECEMBER.

The festive season, to which both old and young look forward throughout the year, is drawing near; and the results of careful rearing on the part of many of our farmers' wives and daughters will soon be seen on the tables of the wealthy. At Christmas time poultry-keepers of all classes furnish a good share of the fare which is enjoyed by everyone; and it is the harvest of the rearing season, for then the results of previous months' labour are realised.

The merchants who supply those of the highest class with good table poultry, including turkeys, geese, and specially-fattened fowls and ducks, pay the best prices at Christmas; and the poultry-rearer usually takes a few days' rest before mating his birds, and thus facing the next season.

It becomes natural when the last month of the year is reached to take a retrospective view; in order that we may properly learn the lessons which the experience of the past months hold for each and all to sum up its lessons.

December is a very important month to many poultry people. It is especially so to those who go in for table poultry—as Christmas comes but once a year—and many families who do not keep poultry, and trouble very little about such things during the year, buy, for their own consumption, a nice, fat duck, goose, or turkey at Christmas. It is a time of feasting, and each one feels it incumbent upon

him to keep it up; thus the best poultry fetches the best prices at that season.

We may here point out, for the benefit of those who have had little experience in rearing poultry, that if they have fairly big fowls, in good condition, particularly cockerels, and are cramped for room, they should sell such birds for killing at Christmas, and probably 1s. or 1s. 6d. more will be realised at that time than would be possible a fortnight after.

Poultry-keepers often wonder at this time of the year why they do not get more eggs, although this is easily accounted for in many cases.

We have been very much surprised, while visiting poultry-keepers in various parts, to see chickens of all ages and old birds running together, and—worst of all—roosting together. There have been from 80 to 140 birds in one house, and crowded together in a space not big enough really for 40.

There is nothing keeps fowls from laying so much as overcrowding, and many diseases and defects arise from want of care in this direction.

It is much better when people have a number of young birds which are not more than from two to four months old, to remove them to another place. They would even do better outside in the open, grow faster, and put on more flesh than they would if closed up in a small wooden house, and crowded together, almost one over the other.

It would be preferable to rig up an open shed for such birds, as long as it has a top, sides, and two ends, so as to shelter them from the wind and rain; and the late chickens will grow much faster, keep healthier, and be ready for

killing much earlier if reared in such places apart from the old stock.

December is a month when the old hens, if not already separated, should be sorted over and thinned out, for the simple reason that if they are left until this time, and have shed their feathers, and are good layers, they will be reddening up for laying, if they have not already commenced, and when in this condition they require plenty of room.

Healthy hens' feathers should be smooth and glossy, and their eyes be very bright, and the birds will be active and scratching all over the place for shell and grit, as well as food, and in many cases very red in comb. There may be other cases where there has not been time for reddening after moulting. When there are signs of laying, the birds should be kept, as a good laying hen will lay as many eggs in her second and third years as in her first.

December is a good month in which to distinguish the bad layers and those which are healthy, for the sick birds are mopey and keep their heads under their wings during the day, or have their feathers ragged and standing up, because of the old plumage remaining in places on account of the bird not having moulted well. In many cases the eye is dull, and the feathers on both sides of the comb are standing up instead of being down in nice order. These indications should mark out birds that are not worth keeping.

We have found many young cockerels, from five to seven months old, which are very full of vermin (the ordinary fowl lice), and, from close observation, we find none on the pullets. There is no doubt that the pullets exhibit more energy and dust and clean themselves; whereas the cockerels do not.

We have pointed this out to many breeders where their birds have not been doing well, and they had no idea that this was the cause. Insect powder should be freely used for such birds, and it is a good plan to place the bird on one side, and then turn the body feathers and those on the top of the thigh carefully and gently, just as one would the leaves of a book, and the vermin will be seen running up and down the stem of the feathers.

This is the point where the lice do most of their feeding ; they extract the blood from between the feather and the flesh of the bird, lying head downwards, and their little trunks thrust down by the root of the feather.

Male birds of over a year old are usually very full of these insects at this time of the year, and if care is not taken the feathers are prevented from growing, because they take a good deal of nutriment from the birds, and weaken them considerably. The insects extract the blood from the root of the feather when it is young and sappy, and so the development of the feather is prevented.

The birds showing these conditions should be covered all over with insect powder. When only a few fowls are kept there is no difficulty, but where people have a large number there should never be less than two to help with the process—the one holding the bird, while the other applies the powder.

The bird should be placed on a table covered with a sheet of paper (to catch the superfluous powder as it falls from the feathers), and dusted, so that not only the fluff is covered with insect powder, but the whole of the skin also ; and then, after all have been dusted, the spare powder can be put back in the tin.

Some poultry-keepers have mated their birds already, while a great many will be doing so after Christmas. It is important that young and vigorous cocks should be mated, or old cocks which are well through their moult.

It is folly to mate an old cock bird, half through his moult, in December and January, as although he may go on pretty well, and fertilise the eggs during the first month, when the very cold weather sets in he falls off, and for two months perhaps not a fertile egg will be produced.

When a cock is moulting, he should be kept away from the hens for two months, and will then come back full of vigour.

When an old male bird has a bumble foot, or is lame from that condition, he should not be relied on for breeding during December, as it is almost a foregone conclusion that the results will be disappointing.

Those who wish for eggs during December and January for sitting purposes should treat their hens very generously, by giving them hot nourishing food in the morning, with granulated meat, or meat of some kind, mixed with it.

The Special poultry meal is the best for all-round purposes for laying, particularly if one has only a few fowls; but where poultry-keepers have large numbers, and wish to produce eggs, then we should recommend them to use at least half Special meal and the remainder middlings and house scraps.

Any pieces of fat or vegetables may be included, or where people have a large number of fowls they should try a little rough fat, cut up finely, and hot water poured on it.

Laying hens should have plenty of ventilation, and not be kept hot at night, or they feel the cold very much when they

come out in the morning, and this checks the development of the eggs.

It is well to remember to give them plenty of scratching exercise. When a covered shed or run is provided, the corn should be scattered amongst moss peat or loose rubbish on the floor, and on wet days they will scratch after every kernel. Scratching exercise is the best adjunct to good food for laying fowls, as it circulates the blood, and prevents undue internal fatness.





PURCHASING NEW STOCK.

[T is always advisable for those who are contemplating the purchase of new stock birds—no matter whether for laying purposes only, for breeding utility birds or better-class fowls for exhibition and typical birds, or those which are required for exhibition at once—to take care to obtain birds which are really suited to their requirements, as much disappointment is saved by the exercise of care in this direction.

Unfortunately, there are many novices who purchase a small pen of birds on account of their looking well, and being moderate in price, and they find that they have bought fowls which are costing them money all the time, and giving them very little return for it.

When purchasers of poultry realise that it is not those birds which cost the least when first bought that are most satisfactory, a good deal of disappointment will be saved ; because, unfortunately, there are those who have given poultry-keeping up in disgust, on account of having fed their birds for months and had no return.

As we are frequently pointing out to disappointed poultry-keepers, it is not possible to get eggs from birds which have

not the proper apparatus for the manufacture of eggs at the season of the year when these fetch the best prices; and unless birds are bred from good laying strains, it is useless to waste good food on them, as they cannot produce eggs in the same way as those which have been bred carefully, and as the result of systematic selection of the best layers for the stock birds, and the regular discarding of birds which have not proved themselves to be profitable as layers.

It was frequently stated that it is well-nigh impracticable to produce high-class fowls with laying and table qualities combined, but this theory has been entirely exploded by the strains established of some of the popular breeds, which combine symmetry of form and fixity of type with excellent laying qualities.

We contend that it pays the small poultry-keeper better to purchase half-a-dozen first-cross pullets which have been carefully bred from good layers which have proved themselves to be worthy of a place in the stock pens by merit of their laying powers alone—even although these pullets cost from five to six shillings each—than it does to purchase double the number of birds at half the price; because the smaller number of pullets will produce a larger number of eggs, there will only be half the quantity of food to purchase, the pullets will very soon pay for themselves by the eggs which they will lay, and the birds can be profitably kept for two whole years for laying. Pullets of this breed form a very profitable investment for the small poultry-keeper, who, when the time comes, can dispose of the birds, which have laid well for two years, giving an excellent return for the outlay in food, and a handsome profit to cover the trouble expended over them, as the hens are still well worth two shillings each for the table.

These birds give continued pleasure during the time they are kept, on account of their satisfactory yield of eggs, and when they are replaced by others they are not a loss on account of being in good condition for boiling.

It will thus be seen that money is well invested in a few really first-class pullets, and there are many who are ardent lovers of fowls whose poultry-keeping experiences do not extend beyond the care of a few good layers of this class, and when those who have been unfortunate enough to buy fowls for laying just because they have appeared cheap, realise that they are spending money unwisely, the better it will be for them.

Then again, in purchasing a pen of pure birds for breeding purposes, the same principle holds good. It is not always found satisfactory by the purchaser to rely on the statement that birds are of a certain breeder's strain, for there are many unscrupulous people who advertise fowls, and state that they are from a well-known strain when the birds have been reared from nondescript stock, and the result of the season's breeding frequently reveals to the owner that the progeny from their hen have come with no uniformity in shape or colouring, and the chickens, instead of being a source of delight, are one of great disappointment to their owners.

We have always contended that in breeding any class of stock blood tells; and it is far better to purchase mismarked birds from a reliable breeder than it is to buy apparently pure fowls from an unknown strain, or from people who state that the birds are from a well-known strain, but who themselves have not any reputation to sustain. We have known many cases in which very fine typical birds have been reared from

a pen of mismarked fowls purchased from a good breeder, and this has been on account of the blood in them.

It does not always follow in poultry-breeding that "like produces like," because mismarked birds from good strains throw better stock than apparently good birds from ordinary strains, which have not been systematically bred with the object of the production of birds which are typical.

In many cases we have birds which are bred from a first cross that so closely resemble the male bird used that it would be quite possible for them to be sold, and give satisfaction, as far as appearance went, as pure-bred fowls; but when they were put in the stock pens of the purchaser, and eggs from them set, a great disappointment would await the purchaser in the quality of the stock reared. Cases of this kind are not by any means of rare occurrence, for we have known many who have been much disappointed, and not a little disgusted, at the hatching out of birds with mongrel tendencies from apparently pure-bred fowls, and which had been purchased as pure fowls.

It is much better for those who wish to breed good layers and birds which possess the characteristics of their variety, to buy their birds from breeders who have the interests of their customers at heart, as well as their own reputation at stake; because, even although they pay rather more for them in the first place, the results are so much better all round that the extra money invested is repaid many times over. In the first place, they get a great many more eggs from the pen of birds on account of their being good layers, and this means that a much larger number of chickens are hatched out than would be possible from a pen of bad layers, and every

bird is turned to profitable account, which is not possible when a great many mismarked birds are hatched.

Then, above all, there is the important question of vitality and stamina possessed by those birds which are bred and supplied by reliable breeders, who have their customers' interests at heart, and consequently do not mate in-bred stock at all, but discard any birds which appear to be lacking in that vitality so essential to profitable stock birds, and by doing so avoid the perpetuation of infirmities.

There are many bad losses sustained by unsuspecting poultry-breeders who purchase birds and eggs promiscuously, and find it impossible to rear their chickens on account of their general debility. In spite of the use of some of the best foods on the market, the fate of many frail chickens is sealed, by reason of their inherited weakness, which is entirely due to the unfortunate custom of those who mate together related birds, and those who do not regard with sufficient importance the health of their stock.

It is most necessary that those who contemplate the purchase of fresh birds should consider well the points here dealt with, as it means for them bitter disappointment if they spend their capital in birds which are not from good laying strains, or are unhealthy, or which have been bred with carelessness.



PREPARING FOWLS FOR EXHIBITION.

ALTHOUGH dealing with poultry-keeping from the utility point of view rather than from that of exhibition standards, we recognise the need of many who will read this publication for information as to how they should manage their fowls so as to do as well as they can by them, consistent with their qualities; and as a large number who start with the object of keeping their birds for laying cannot refuse the opportunity to exhibit several of their best when a show is organised locally, and when this first venture proves successful, they frequently send their birds further afield, and this leads to the development of small fanciers' interests on every hand. Many amateurs send their birds to exhibitions, and are very much surprised that they do not win prizes, especially when they sell their birds with which they have been unsuccessful, and those who are fortunate enough to buy them win all through the country with them.

The cause of this is explained in a very few words. Fowls are often exhibited which are in many cases better than those which win, yet they do not get even a card. The finishing touch, or the preparation for the show-pen, is a

very important matter, and goes a long way towards the success of the birds, as if they are to win they must be in prime condition, and this counts more than amateurs realise.

For instance, Plymouth Rocks are often packed up out of the run by a novice, and sent direct to the exhibition before the legs have even been washed, whilst others in the same class will not only have their legs washed, but every particle of dirt taken carefully from under the scales, and their legs nicely polished.

Some breeds, of course, want preparing quite differently to others, but all varieties should be trained in a coop for a few days before being sent to a show for the first time; if not, they are so wild when the judge goes round to award the prizes that it is impossible for him to see their proper shape, as they will crouch up in a corner, and very often the male birds will put their wings over the saddle feathers.

After they have been standing in the show-pen a day or two they get tamed down, and it can be seen that they stand right before the winners in merit, though perhaps they may have not gained a card; then the exhibitor is disappointed with the judging, and in reality it is not the judge's fault at all, but his own.

Birds with yellow and white legs should have these washed very carefully. After they have been scrubbed with a little soap and water and wiped dry, it is well to get what is termed by jewellers a watch cleaner, which is a small piece of box-wood, properly shaped, as the dirt can then easily be got from under the scales, just as it is from a person's finger nail.

After every particle of dirt is thus removed, the legs should

have another scrub with soap and water, and be wiped perfectly dry, then have a little vaseline rubbed in.

After this they should be well rubbed with a soft piece of cloth, an old silk handkerchief will answer well, as this leaves a nice bright gloss on the legs, no matter whether they are white or yellow.

The combs, face, and wattles should have a little vaseline and salad oil rubbed in, then carefully wiped off with a soft cloth. This leaves them a brilliant red, which lasts two or three days.

Large coops should be provided for birds intended for show, standing about three feet from the ground, to put them in a few days before they are sent to the exhibition, and the owner or attendant should put his hand in, or, better still, use a judging stick, and stroke the bird down. This gets them accustomed to the pen, and causes them to become tame. It is well also to get them used to eating out of the hand; then, when the judge goes round giving the awards, the birds, instead of being frightened, are more inclined to walk up to him and show themselves off to the best advantage.

Game fowls should always be fed from the top of a wire pen or coop, so that they may stretch themselves out, as they ought always to stand in a very reachy position.

Breeds which have white ear-lobes should invariably have a piece of canvas put over the front of the coop, so that it is darkened, as the ear-lobes become very much whiter and improved by being excluded from the light, and their combs grow much larger if they are fed on a little meat and hemp-seed. The white ear-lobes should be smoothed down care-

fully with the thumb, to prevent any wrinkles coming in them.

Birds with black legs should have them wiped over, or, if there is any dirt on them, they should be washed carefully then a little vaseline rubbed on, just in the same way as it is on the birds with white or yellow legs, which should then be wiped and polished. These little things cannot be called "faking the birds up," but merely getting them into good condition form, and unless they are prepared in this way they stand but little chance of winning.

Care should always be taken not to put a bird in the dark, or shaded too much from the light when it is a breed having small combs; if so, it is apt to make them grow too large, which may be a disqualification in the show-pen.

Black fowls do not require washing for show-pen, but it is well to attend to their legs, feet, and heads.

Houdans should be washed throughout, although many have neglected to do this. A little soda and soap must be put in the water in a large bath. If they are rather dirty a nail-brush should be used, holding the feathers on the left hand, and then they can be brushed. After removing all the dirt, transfer the birds to another large bath of warm water through which the blue bag has been passed, and thoroughly rinse them in this, using a sponge to get the water out as much as possible, then a wash-leather, rubbing them with care, the feathers always being handled the same way as they grow; finish them with a dry towel in front of a large fire.

The white, buff, or light fowls of any breed which really require washing to the skin must be done most carefully.

There should be a tub or bath of warm water about four or five inches deep, and the fowls should stand in the water, and the feathers be well soaked in the mixture of soapy water. After they have been scrubbed the soap should be well rinsed out of them in another bath of warm, clean water, and then should be dipped in blue-water, which should have the chill off—this should be about as blue as that which linen is steeped in to make it white. After this is finished they should be dried as described for Houdans.

Give each bird two roup pills, as this precautionary measure usually prevents them from catching a cold. The room should be warm, and the birds put in a covered basket and set by the fire, and must always be washed two days before being sent to the show; if not, they may not be quite dry. When dry, it is well to brush the feathers carefully with a clothes-brush, each feather the way it grows, and then with a fine hat-brush, as this treatment brings each feather into its natural state.

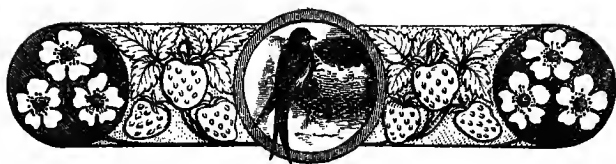
The fluff feathers should be held in the left hand, then they can be spread out and brushed properly. After the comb, face, and wattles are washed, they should have a little vaseline and salad oil rubbed on them; if not they are liable to crack or look very pale.

When the birds are in the pen, they should have a good supply of grit, green food, and water. When sent to a show, it is well to give a roup pill, as this often prevents them from taking cold, and gives them a good appetite when they arrive at their desination.

When cockerels return from the show-pen which have been accustomed to run with the others, they should not be put with them, as they are apt to fight and injure themselves.



Collection of Challenge Cups, Silver Cups and specials won by William Cook and Sons in one year—November 1904-1905.



THE UTILISATION OF POULTRY MANURE.

THERE has recently arisen a demand among florists and fruit-growers for poultry manure, and that collected from fowl houses where moss peat is used as a bedding for the birds is preferred by those who cultivate fruit and flowers. Ten years ago, in many parts, poultry manure was not saleable, and florists and gardeners preferred to purchase the different classes of fertilisers which had been in vogue for a considerable time in preference to trying experiments with that collected from fowl houses, but after a few were persuaded to make a trial of this, its value was realised, and now poultry-farmers look upon the manure as an asset to be reckoned each year.

By using moss peat in the houses a very great saving is effected in labour, as it is only necessary to renew it three times in the year, and during the whole period the houses are kept perfectly sweet, no smell whatever arising from it provided that the peat is well broken up before being put into the house, and that it is raked over with a small garden rake once a week just to lighten it. The peat is a deodoriser, and, being absorbent, the excrements are pulverised and disappear gradually.

We have been asked whether the use of moss peat causes vermin to collect, but this is not the case. When the fowl house is cleaned, every particle of moss peat should be swept out, no matter whether the house has a floor of soil, cement, or boards. As a rule, when people sweep the moss peat out of the fowl house they do not fetch it from the corners, and so some of the peat does not get removed for about twelve or eighteen months. In that case, it is possible that vermin will be found, as these pests will breed anywhere, even in wood, if it is not removed or cleaned. When the perches are fixtures nailed on to other wood, vermin will collect in the crevices.

Moss peat is a labour-saver to poultry-keepers, as well as adding to the value of the manure when collected. When it is used there is less smell in the poultry house from the poultry manure in three months than there would otherwise be in two nights. Moss peat is a deodoriser in itself, but in all cases it should be kept dry, as it is of a spongy nature, and will draw in any moisture from damp earth, and this renders it unfit for use in houses. Every poultry-rearer should see that his houses are entirely waterproof, as roof leakage makes birds subject to discomfort many times during the year, and some are a pitiable plight when a sudden down-pour of rain comes. For the nest boxes, road scrapings or sand should be used, taking care that either is well sifted and quite fine.

It is well to arrange to clear the peat out in October, February, and June, so that the collection of feathers takes place after the moulting season—then the birds have it nice and fresh for the winter. That which is taken out of the

fowl house in October is much richer than at any other time of the year, as there are so many feathers in it. These feathers, we have been told by analysts, contain 21 per cent. of manure.

Experiments have proved that where feathers are used the corn or vegetables will come up half as strong again, as from the manure at other times of the year. This can be tested by using the ordinary poultry manure on one half of a field, and dig or plough the feather manure in the other half, and it will be seen to an inch how far the latter has been used. Some farmers who keep a large number of fowls have the manure stowed away and kept dry, and afterwards have it all run through several sieves. The fine manure they drill amongst turnips and mangold wurzels, and the coarse stuff is sown amongst the grass, or corn, and is most valuable.

When farmers put their fowls out in stubble fields the excrements collect round the roosting houses, and the results are seen the following year, as the corn comes up particularly strong, being three to five inches higher than when the ordinary manure is used, and the ears are considerably larger.

Florists grow some of their finest chrysanthemums, dahlias, and many other flowers with poultry manure made liquid by soaking it in a large tub in water, using the liquid to water the flowers, otherwise it would be rather too strong for the fibrous roots of some kinds of flowers.

Poultry manure is excellent for nearly all vegetables except peas and scarlet runners; but when it is used with these two last vegetables it should always be mixed with horse manure, as when pure it burns up the fibres of the peas and beans.



EXTERMINATION OF RATS.

WHEREVER there are buildings providing accommodation for grain, there will be found some rats, and we do not know of any class of keepers of stock who are more thoroughly pestered with these than poultry-keepers, whose houses form happy hunting-grounds for the male rats with wives and families innumerable, who thrive on the grain which is provided for the fowls, and, when this is not to be had in sufficient quantities, substitute any available chickens and young stock to which they may have access. Many losses occur both amongst the old and the young stock from rats. Many poultry-farmers have been compelled in the past to keep ferrets to compel the rats to leave their holes, and sharp terriers to finish the work of destruction after this, and although in some cases this has been proved to be fairly satisfactory, the cost of maintenance of ferrets and dogs is a heavy item following on the cost for their purchase in the first place—the initial outlay being small compared with their upkeep. Fortunately, through the clever invention of the Liverpool Rat Virus, all rats can now be effectually destroyed, as one or two tubes of this, used according to the directions supplied with them, will entirely

destroy all rats. After being severely worried by hundreds of rats, which have killed our chickens in numbers—and in spite of a stud of ferrets and the best of terriers—this Virus was brought to our notice by a client of ours, and we have now used it for some time with the best of results.

The Liverpool Virus can also be had for the effective destruction of mice.

By the use of this Virus there is no smell, as is the case with poisonous preparations, and no risk of the loss of any valuable animals which may inadvertently pick up any preparation of a poisonous nature.





FATTENING FOWLS.

THIS is a branch of poultry-keeping which is now better understood than formerly, as the advantage of specially fattening the birds sold for the table has been realised by those who formerly marketed their fowls "in the rough," but who, commencing by putting up a few coops for improving backward cockerels, have found the experiment more than a success; and, in fact, a very profitable addition to the result of the year's working.

Fattening fowls is a business which comparatively few understood down to five years ago, though many were acquainted with other branches of poultry-keeping. Owners of young fowls frequently have cause to be dissatisfied with their young cockerels when they are killed, as their own fowls are not as tender as some that have been bought from the poulterer. From fourteen to twenty-one days is long enough to have them up, but, as a rule, very young chickens are not in the coop more than sixteen days. The best meal to use is ground oats, taking care to obtain pure oats, and not a mixture of barley meal. When ground oats cannot be obtained, and only a few fowls are to be fattened, it is well to buy some fine oatmeal and mix it with some good middlings. French buckwheat, ground, is a very fine meal



CRAMMING.

for fattening. Oatmeal or ground oats make the flesh whiter than any other system of feeding. The fowls should be put in a coop on small round bars, which should be from 1 to $1\frac{1}{2}$ inches apart, and always put lengthwise, so that the poultry can stand and eat out of the troughs. The bars in the front of coop should be about 2 inches apart. One coop, 3 feet long and 18 inches wide, is large enough for six fowls. It should be 21 inches high, otherwise the cockerels will injure their combs when crowing. For the largest fowls it is well to have the coop 24 inches high.

Where small chickens are fattening a smaller coop will do. The fattening coops are best kept in a shed or out-house where it is a little dark. The trough they eat out of should be fastened outside their coops, about four inches higher than the bars they stand upon, otherwise they waste the food. The trough should be made like a pig trough, narrow at the bottom and wide at the top, and should be from five to six inches across the top. The food ought to be mixed up soft so that it does not cling together when the fowls peck it up. In this way they cannot peck up much at once, so they peck away as fast as they can, and in this way one induces the other to eat. They do the best where two or more pens are together, as they eat one against the other. Their food should not all be put in the trough at once, but a little at a time, then they clear it up and look for more. Nothing sets fowls against their food more than giving them too much at once, especially when up to fatten, as they do not have any exercise to give them an appetite. They should not have a particle of food left in their troughs. It is well to let two or three fowls come in the house where the others are penned

up to fatten, to peck up the few odd pieces that may have fallen down. This prevents any waste, and also induces the penned birds to clear their food. When the food is mixed with hot water in the winter and spring, they fatten much faster. Skim milk is the best, where it can be obtained. The last eight or nine days they should have prepared fat mixed with their food.

Those who regularly fatten a number of fowls have a special copper for preparing the fat for mixing in their food, and as a copper of this kind is very useful on a farm, it would be well for those who rear and fatten a good many birds to invest in one of a portable kind, as it can be used for making water hot for fowls' food all through the winter months, as well as for boiling paunches and lights for the laying fowls, and for preparing the fat for those which are fattening.

In preparing the fat for mixing with the soft food for the fattening birds, the portable copper is placed some little distance from the dwelling-house, either in an outbuilding or in the open, with just the protection of some rough boards nailed round the back and sides on to posts driven in the ground. Into the copper the rough fat which is obtained from the butchers is emptied, and then is covered with enough cold water to the depth of four or five inches. The quantity of fat depends upon the number of birds which are being fattened. About one hundredweight of fat is purchased at the time by those who have six dozen (or more) fowls fattening at once, as when boiling down it keeps for a long time, and can be used as required.

After the fat and water have been placed in the copper, the fire should be lit, and the whole contents allowed to

KILLING (No. 1).





boil for two hours, after which the fat will rise to the top, and should be skimmed off into a pail, from which it is poured into milk-pans, or any available pans which are suitable for the purpose. After the fat has cooled for a few minutes, but before it has commenced to set, a cupful of cold water should be poured into each pan, which will sink to the bottom, and prevent the fat from sticking to the pan. An ordinary fowl should have from one ounce a day, but to large birds more may be given.

This helps to fatten the fowls, and also causes them to be tender and more juicy. If old hens are fed on a good proportion of fat the last three weeks before being killed, they eat much more juicy. When they are boiled gradually, they cannot be distinguished from young fowls when fed in this way. When for the market, it is best to cram them the last week, as a fat young fowl usually makes 6d. or 9d. more than one the same weight not fat. When crammed by hand, the meal should be made into pellets, from two to two and a-half inches long, and dip them into milk or warm fat, when they slip down easier. They should be worked down with the thumb and finger; if not, they are apt to get lodged at the bottom of the neck. When they have to be crammed by hand, it is well to let them eat as much as they will first, and then give them a few pellets, just so that their crop is well filled. They should have a little fine grit in their food about twice a week, but do not require any water to drink. After fowls have been shut up about four or five days, they occasionally lose their appetite. When this is the case, a little fattening powder should be given in the food, as this helps the fowls to eat when put up to fatten.

When the fowls are first placed in the coops, they feed from the troughs, the food being mixed to the soft consistency of thick cream, as no drinking water is allowed during the fattening period, and as soon as they show signs of not eating as much as they should, they must be crammed by a machine, and when the fowls are first placed in the coops, they should be allowed a rest of from twelve to fourteen hours before they are fed, provided they have not come off a railway journey, in which case they should be fed at once.

The fowls in coops require feeding twice daily, viz., at about 6 a.m. and 5 p.m. in the summer, and at 7.30 a.m. and 4 p.m. in the winter.

When quite young birds are cooped, and it is noticed that their crops empty very quickly, it will be advisable to give them a mid-day meal. For the first week ground oats and milk should be given to them, and then during the second week a little of the prepared fat should be melted up and added to their food, and then gradually increased until the proportion given is a tablespoonful per bird.

It is absolutely necessary that the food used be quite sweet, and to make sure of this it should be tasted. During the summer months the mixture of ground oats with milk and fat is given to the birds in a cold state, but during the winter and spring the milk should be made hot, so that the food is just comfortably warm when fed to the birds.

The milk should be placed in a pail or mixing tub, and then the ground oats stirred in little by little, using a large wooden ladle.

Sour milk and skimmed milk can be used with good results for fattening chickens.

KILLING (No. II).



TIMES OF FEEDING.

For the mixing ladle, a flat piece of wood $3\frac{1}{2}$ inches broad by $1\frac{1}{2}$ inches thick, should be shaped by removing some from each side of the top to serve as a handle, then this can be used for mixing the food and for serving it to the birds.

Care should be taken to give them a little in their troughs at first, and then come back along the rows a second and even a third time if necessary.

The method of cramming is shown in our illustration—"The Crammer at Work"—the method adopted being that of clasping the bird which is to be machine-fed firmly between elbow and hip, holding the head and opening the mouth with the left hand, whilst with the right hand the tube is quickly but carefully put down the bird's throat into the crop.

Then the right hand is slid down to the crop, the foot is placed on to the treadle of the machine, and the prepared food, which is in the drum provided for its reception in the machine, is forced through the tube and straight into the bird's crop, the position of the operator's right hand telling him when sufficient has been injected, when the tube is withdrawn and the same process gone through with the next, and so on.

Where a good many birds are to be fattened it facilitates matters, and lessens the expense of handling the number, if a boy is employed, as he can take the birds from and replace them in the coops, handling them carefully, under the direction of the operator, and in this way the older hand just keeps steadily on cramming the whole time, only ceasing temporarily while the boy refills the drum.

It is not unusual for an experienced fattener with the help of a boy to cram from 270 to 300 birds per hour.

The quantity of food to be injected must be regulated at the discretion of the fattener, because one bird will do with nearly twice the quantity another can take, this depending entirely upon its condition.

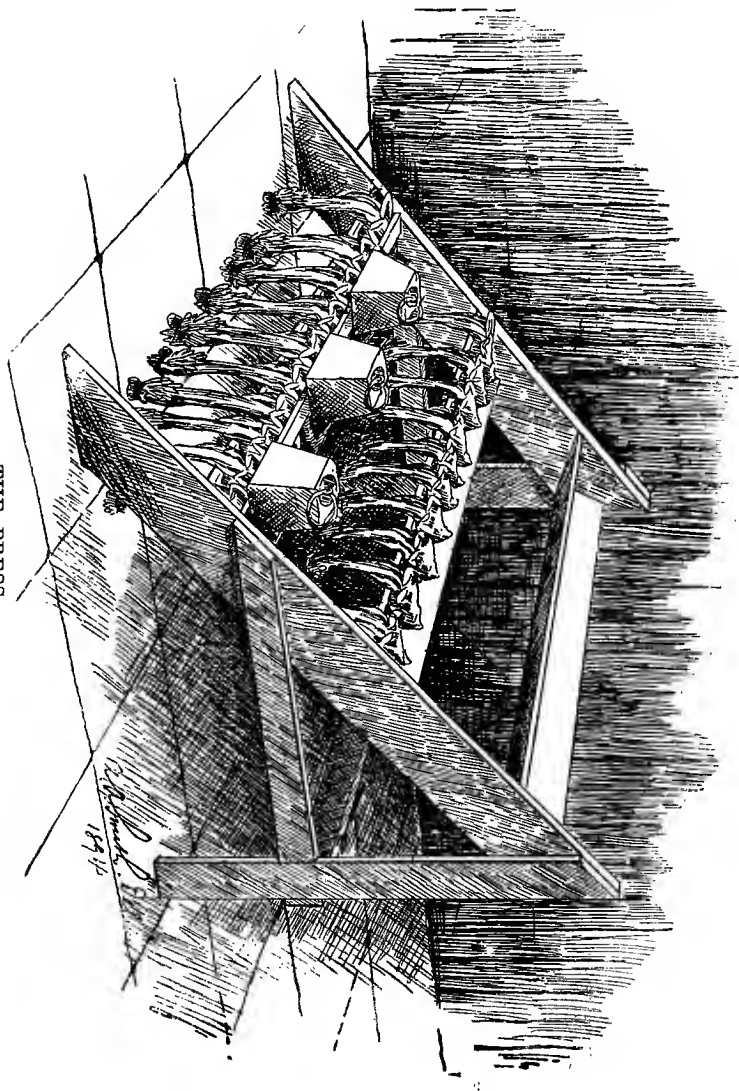
It will thus be seen how necessary it is for those who go in for fattening fowls to thoroughly understand their business, and to learn to handle the fowls on the machine and to exercise their judgment as to quantities, etc., with a few experiments before attempting to fatten them in numbers.

Speed comes with experience, and until this has been gained a "stop regulator" should be used on the machine, which will enable the amateur to avoid the possibility of injuring the crop of the birds. Care should be taken never to cram a bird (by means of the tube) which is not perfectly healthy, as the appearance of colds followed by roup is not unusual, and particularly during hot weather, and an outbreak of this kind is very seriously emphasised by the tube treatment, which causes it to go all through the stock.

As soon as the birds are ready for killing, this process should not be delayed, as after their frames are covered with as much flesh as they are capable of carrying, they become lethargic, and the flesh loses its delicacy of flavour, which is at the finished stage unmistakable by any *gourmet*.

To ascertain whether the fowl is ready or not, is easily done by feeling the two small curved pieces of cartilage on each side of the stern, which, in a fowl taken up direct from the yard, will be found to be nothing more than a slight covering the skin, with very little meat or fat underneath;

THE PRESS.



but when the fowl is properly fattened the hollow place which was covered originally by a piece of loose skin will have become tightened by the accumulated fat, so that the cartilage itself can be felt.

The back should also have a fine collection of flesh on it, and down each side of the breast, by blowing the feathers aside, layers of fat can be easily seen.

The best method of killing fowls is to take each one from the assistant as he passes them from the coop, and, sitting down, the operator takes the legs of the bird in the left hand, as seen in illustration (Killing, 1), the front part of the breast lying against his thigh.

The right hand is then passed under the shoulders of the wings—the thumb being on one side and the fingers on the other—when he forces the wings backwards, closing his hand at the same time.

Then, with the left hand, he seizes the legs, tail, and end of wings in one firm grasp—which is clearly seen in illustration No. 2—which leaves his right hand at liberty, and he passes either the first or second finger over the other side of the neck, and the remainder of fingers over the other. Then, seizing the head in his hand, he allows the fork of his fingers to come just behind the head where it joins the neck, so that the left hand being held firmly against the left thigh the head of the bird is just over his right thigh, near the knee.

By sharply bending the head backwards; separating his knees simultaneously with the first movement, the neck is dislocated, the whole taking between five and seven seconds in the hands of a skilled operator.

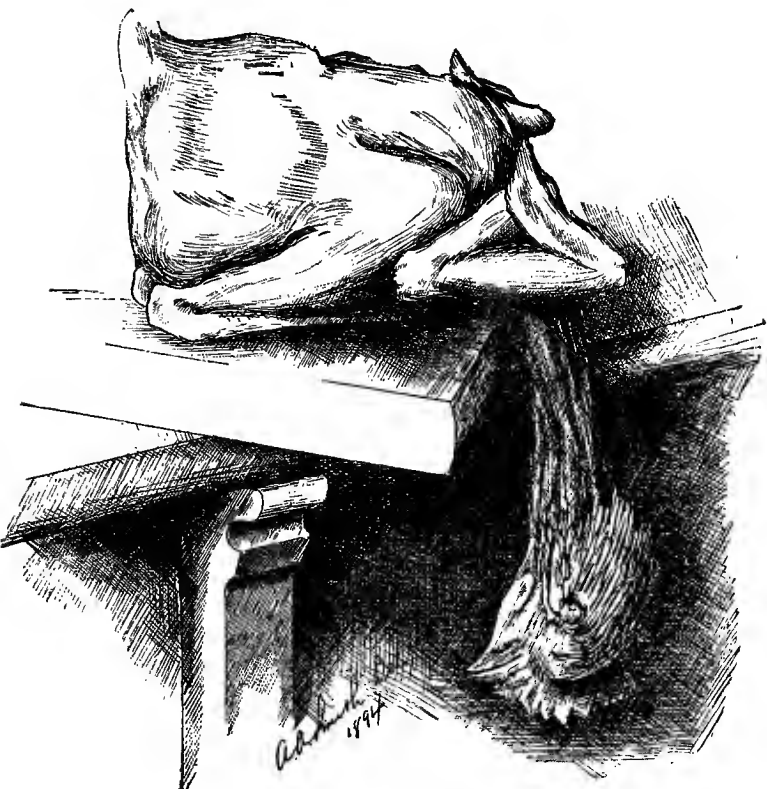
Directly the neck is dislocated, the bird should be plucked, being handed to the pluckers by an assistant, who at the same time passes over another bird for killing in the most humane manner ever known.

Plucking should then be done at once, and the bird placed in the press—an illustration of which we give. The birds are placed in the pressing trough, which is made by putting two boards together at right angles, the front (or lower) board sloping slightly upwards, and the back board outwards. The width of the lower board is regulated by the sizes of the birds, and as these vary so much, those of four different sizes should be provided. The "finished bird," as it comes from the press, we also illustrate.

The breast bone should not be broken by the fattener. In order to turn the birds out after the Surrey style, it is necessary that the feet should be broken to enable the toes of the bird to be placed flat by the sides of its breast. This can be accomplished by placing the foot of the bird flat against the inside of the right hand with the toes pointed down, then by quickly closing the hand, the foot is broken. After ten or a dozen fowls have been properly stubbed, and before they have become cold, they should be singed.

Good wheat straw should be used, and, after taking the bird, first by one leg and then by the other, the lighted straw should be carefully passed under all the hair, following on by doing the wings, taking care not to blacken or singe the flesh.

At some shows the birds have to be exhibited unsinged, the object being to guide the judges as to the age of the birds, although any competent judge is able to ascertain the



THE FINISHED BIRD.

(Showing Indent on back due to weighted board).

ages of the exhibits without this. For market purposes, the birds must be singed. After doing this the birds' hocks are tied, just so that each leg can be moved up and down by itself, and not to bind them tightly together.





LAYING QUALITIES IN FOWLS.

IN order that any branch of poultry-keeping may be made a success, no matter whether the fowls are kept merely for egg production for the home or for sale, or for table purposes, or good-class birds are bred, or exhibition fowls are kept, it is absolutely necessary that the right class of stock be obtained first of all, and then when this has been done, that they receive exactly the right treatment to get the best possible results from them.

Many good birds are spoilt by the wrong treatment, and the successful poultry-keeper, no matter whether he is only keeping fowls for the production of eggs for his own house, or for the purpose of hatching and rearing table birds, or for better-class fowls which are well up to the requirements of the standard, requires to know the best methods for the treatment of his fowls for that individual purpose.

The days when these subjects could be ignored have passed, and it has become absolutely necessary in order that the best possible results may be obtained, to take the greatest care to obtain birds which will give their owner eggs when most required.

We are convinced that the poultry-keeping industry would



BLACK ORPINGTON PULLET.
(GOOD LAYER).



BLACK ORPINGTON PULLET.
(BAD LAYER).

not have reached its present stage, had it not been for the study bestowed on the development of the laying qualities of fowls by the author of the earlier editions of this book, who, for thirty years, lost no opportunity to impress on poultry-keepers, whether on a large or small scale, the importance of keeping only those fowls which would each individually give a good return in egg production for the food they consumed, and it was in spite of much opposition from many who were content to accept things as they were, that we invariably advocated the absolute necessity to breed only from good layers.

Many will state that a certain course is advisable, but it often becomes necessary for those who have the best interests of others at heart, to be even more emphatic than this, and to positively state that it is impossible to get satisfactory results, unless this or that course is pursued, and in order to make poultry-keeping a thorough success.

We take this opportunity of emphasising that it is not possible to get really good results from fowls which are kept for utility purposes, unless the greatest care is taken to breed from those fowls which are really good layers and from those alone.

Those who wish to make their fowls pay should not be content with obtaining the breed recommended for any particular purpose, because the strain is of even more importance.

It will thus be seen that one of the most important details in the plans of a successful poultry-keeper is that part in which he decides on which birds he will keep and breed from.

It is always wise to make a rule never to set an egg from an inferior layer or sickly bird.

When, on the other hand, fowls are required for the table, only good-bodied birds should be selected, with long, deep breasts, and these bred from with a cock of some good table variety. Careful selection is the all-important thing. It does not matter how many breeds a hen may have in her; if she is a good layer, and mated with a pure male bird, the result will be good, as the pullets will lay from a month, six weeks, and sometimes two months earlier than they would if the hen had been mated with a cross-bred or mongrel male bird.

Where fowls are kept principally for laying, it is an easy matter to detect the best laying hens, as these are sharp-looking, intelligent birds with bright eyes, and a nice, sleek-looking head. They are generally out first in the morning, and go to roost late at night, and are usually scratching and roaming about during the day, covering much more ground than a bad layer, and taking enjoyment in activity.

Poultry-keepers will see at a glance, by reference to the engravings of heads here illustrated, the difference in the appearance of the eyes and head generally of the birds, and so save a great deal of trouble and expense, as ten good layers will produce more eggs than thirty bad ones during the whole year, and particularly during the winter, at about one-third the cost.

It is always best to have a pure-bred cock, as most pure breeds have some distinctive quality which it is well to introduce into cross-bred or mongrel birds.



CROSS-BRED PULLET.
(GOOD LAYER).



CROSS-BRED PULLET.
(BAD LAYER).

A bad hen only spoils the birds bred from her eggs, while the cock, if he is bad, spoils the progeny from all the hens he is running with, and his influence is far-reaching beyond that of the hen, so it is important that of all the birds the male bird of a breeding-pen should be pure.





CROSS-BRED FOWLS.

IN the former editions of this book there was a considerable space devoted to the relative qualities of first-cross fowls, but as the value of these for general utility purposes is now so well understood, we do not propose to do more than just refer to those crosses which are the most profitable.

HOUDAN-LEGHORN.

For a non-sitting cross this cannot be surpassed in number of eggs and hardiness of fowl. The birds may be brought up in small back-yards, and will grow fast and feather well, giving but little trouble. They are remarkably active as chickens; when first hatched they are black on the back and yellowish-white underneath, and usually show a small top-knot, and a few come quite white. The cockerels should be killed off early, as they become very troublesome when they are from twelve to fifteen weeks old, but if kept longer they ought to be separated from the pullets. They do not make large table fowls, but are very plump, having small bones, and flesh which is very white and juicy. We do not recommend them as a market table fowl, unless it is as early spring chickens, when they are not required so large. They

stand the cold weather very well, and are ready for table earlier than the larger breeds. Some of the pullets commence to lay very early, sometimes at from four to five months old. This is rather too early, as if they commence when from five and a half to six months old it is better for them, and the eggs are larger. These are white, of a medium size, and a little larger than a Dorking's. A good proportion of the pullets come black, but sometimes a number of white are produced, and if Brown Leghorn hens are used some have brown hackles, but all have black bodies. They are very compact fowls, and will work well for their living when they have an opportunity. They fly if they have their liberty, but if brought up in a wire pen they are very contented. Where eggs are required all the year round, we strongly recommend the cross as a non-sitting breed. as they will stand any amount of damp and cold weather, and they will not disappoint their keepers. It bred from a good laying strain they often lay 200 eggs each in a year, when kept in confined runs. They, of course, vary very much according to the method of management. The average is about 170 eggs each per annum. Some specimens have laid over 270 eggs in twelve months. The eggs from Leghorn hens with Houdan cocks running with them hatch remarkably well, very seldom less than nine chickens out of twelve eggs, and in many cases eleven or twelve. Leghorn hens are very good to breed from. It is much the best to run a Houdan cock with these hens; from seven or twelve of the latter to one male bird. For those who only require eggs, and especially if only for home consumption, a more profitable cross cannot be kept, if something is given them to scratch in so as to keep them employed

The number of eggs produced by these birds is marvellous, and if six hens in their second year and six pullets can be kept, the owner would never be without eggs.

HOUDAN-ORPINGTONS.

This is one of the best all-round crosses for eggs and table birds combined, and may be produced by mating Houdan cockerels with Buff, White or Jubilee Orpington pullets.

The chickens from this cross hatch out well and fledge quickly, especially the pullets. They are very hardy, and will do well in cold or wet weather. While, as a rule, chickens cannot stand wet weather, we have reared these chickens from a week old, and the death rate has been very low, some years not any chickens dying after they were a week old, although they had not been inside the hen house, or had a shed to protect them from the wet and cold at night, living entirely in a coop until a short time before laying. They make good table birds, often being ready to kill when three months old, and are very plump and of good flavour, their skins being very white and juicy in flavour. Seventeen out of every twenty pullets are black; sometimes they have white legs, but there are a few with black, while some of the pullets will come with a brown mottled breast, similar to that of a thrush, the groundwork being of a darker colour, particularly when they are bred with Buff or Jubilee Orpingtons. The hens lay fine eggs, generally brown, some tinted, and a few white, that will command a good price in any market. They will do well in confinement or with a large run, are very healthy, and we have never had them suffer from anything except cramp.

For all-round birds, winter layers, and table birds combined, the Houdan-Orpington is the best of all the crosses.

INDIAN GAME-BUFF ORPINGTON.

The Indian Game-Dorking cross is recommended by many breeders in England when table birds for profit are required.

Our own experience has proved that from 15 to 25 per cent. can be saved during the autumn and winter by crossing the Indian Game with Buff Orpingtons instead of Indian Game-Dorkings, because, as most people know, the Dorkings are not good layers as a rule, particularly during the winter months, when eggs are most required and most valuable.

Of course, if the eggs are not laid it is impossible for people to hatch chickens for spring consumption.

As a rule, fifteen Buff Orpingtons will lay more eggs than thirty Dorkings from 1st September to 1st January, just when eggs are most required for hatching birds for early spring, and the chickens grow faster.

Where poultry-keepers once try this cross they will never go back to Game-Dorking again. We have tried many experiments in crossing, and, as a result, unhesitatingly say that Indian Game-Buff Orpingtons come right to the top of the tree—and, after all, experience is the best teacher.

Another thing to be considered is the fact of Buff Orpingtons being so much easier to rear than Dorkings, and the pullets lay at least three months earlier than the Dorkings, and because of this we strongly recommend an Indian Game cock to be crossed with Buff Orpington hens, as the chickens from this cross grow fast and fledge quickly, and the pullets make excellent winter layers.



THE PRESERVATION OF EGGS.

DURING the summer months, when eggs are plentiful, it is often advisable to store some for winter use. and the best method of doing this, as well as being a very simple one, is to have shelves made so that the eggs can stand in an upright position. Small holes are bored in the shelves for the eggs to stand upright in, and as eggs vary in size, the holes should be made of different sizes. In this way they can be kept from two to six months, and they will be perfectly fresh. In all cases where eggs are intended for storage for the winter, they should be collected from the nest twice a day; if not, those which are laid first thing in the morning and are kept warm all day by the hens, have germinated, and they will not keep, as the germ becomes putrid, this being one reason for many eggs going bad.

Another, and the best, plan is to make a cupboard or box, which may have fitted into it drawing shelves or trays with holes in, so that eggs can stand in with large end upwards. Kept thus eggs will be eatable or fit for cooking purposes from three to six months after laying, and if required will keep even longer. The cupboard should be put in a cellar or other dark position where the temperature is

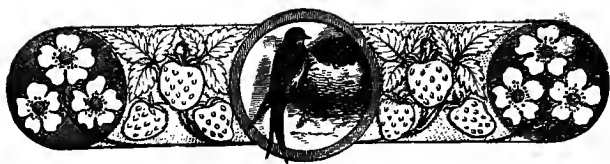
even, and they will keep better than if they were put in lime or pickle.

Some poultry-keepers prefer to use a preparation of lime, however, and this is made by placing in a tub or vessel one bushel of quicklime, two pounds of salt, half-a-pound of cream of tartar, and mix the same together with as much water as will reduce the composition or mixture to that consistence that will cause an egg put into it to swim, with its top just above the liquid; then place the eggs therein. Half the quantity will do three or four hundred eggs. The eggs preserved in this way will keep twelve months if required.

Another way is to butter the eggs as soon as they are laid, and lay them in tissue paper and set them on the small end. If buttered when warm they will keep four or six months quite fresh.

Water-glass preparations are also sold for the purpose of the preservation of eggs, and these answer very well. Full directions are given with each tin as to proportions to be used.





THE TREATMENT OF EGG EATERS AND FEATHER PLUCKERS.

WHEN complaints arise that the birds are not laying, it is well to enquire whether the fowls are egg eaters or not. Very often more than one person collects the eggs—and sometimes there are egg-eaters amongst a pen of fowls, without the owners having the least knowledge of it.

Where they do this, the only way to make sure is to catch every bird in the pen first thing in the morning, and feel the oviduct. It is a very easy matter to feel if there is an egg ready for laying the same day. Having ascertained that the birds are eating their eggs, the first thing to do is to cut their beaks, so that they would be unable to break an egg without giving themselves pain. The horn of a fowl's beak is like a person's finger nail, and soon grows again, consequently it should be kept rasped down with a fine file, should the birds persist in eating their eggs after the first treatment.

An inveterate egg-eater often gives one a great deal of trouble, and if they are not valuable birds the best thing to do is to cut their heads off, as that is a safe cure.

When, however, it is a valuable bird which eats her eggs, and cutting the beak does not stop her, the whole of the contents of an egg should be emptied out and the shell filled

Farm Field & Fireside

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LONDON, W.C.**

with mustard and cayenne pepper. Sometimes they will eat the whole of it; when they do they do not forget it in a hurry, for it gives them pain for at the least eight or ten hours, and they appear to have had enough egg, at any rate for a time after that. It is rather annoying when a hen eats all the profit in this way, and yet this is the way a good deal of it goes in many instances.

To test whether an hen is an egg-eater or not, put an egg in the run. Let it be a brown one if the hen lays brown eggs, or a white one if she lays white eggs. When she notices the egg, if she only rolls it over with her beak it is a pretty good proof that she is not an egg-eater, but that she had sometimes helped the other hens to eat an egg. If they do not know the taste of an egg they do not turn it over. The fact of them rolling it over is a proof they expect to find a hole in it. These birds can really be called egg-eaters.

Some hens will strike the egg with their cut beak, or an egg filled in the way we have described, and these are considered inveterate egg-eaters and should be killed. Feather-pluckers should be treated in exactly the same way, as by cutting their beaks they cannot hold the feathers to pull them out.

OF INTEREST

TO

ALL POULTRY-KEEPERS.

WILLIAM COOK & SONS supply everything that is necessary to the well-being of fowls, and the prices of their Specialities will be found in the following pages. They would particularly draw the attention of Poultry-keepers to their Poultry and Roup Powders, which are **THE** best in the Market, the former being most valuable for fowls during their moult, and for inducing them to lay throughout the Autumn and Winter, and the latter for birds suffering from colds and Roup. Their Meals are of the finest quality, and special quotations will be given to large breeders requiring a quantity at a time.

.

William Cook and Sons'

FOODS FOR POULTRY.

These are the finest Meals obtainable for the production of eggs in abundance, and for feeding birds for exhibition, in order that condition so essential to success may be obtained.

William Cook and Sons' POULTRY BISCUIT MEAL

Is the best Biscuit Meal on the market. For chicken rearing it is unequalled, and where birds for exhibition and high-class stock are reared it is indispensable. A small proportion of this, added to the ordinary mixture of meals used for rearing birds for laying, increases their growth. For feeding fowls which are kept for laying purposes only, it is an excellent meal. Birds kept for utility purposes should have some of it mixed with middlings and barley meal, but Exhibition Fowls should be fed on this and the Special Meal only. Those birds which are fed thus have very glossy plumage, and their form cannot be improved upon.

This Biscuit Meal contains 10 per cent. best quality granulated meat, and not any oyster shell. A good many of the meals on it is found by comparison with others and in use to be the cheapest former. The price is very low compared with the quality, and it is found by comparison with others and in use to be the cheapest biscuit meal before the public.

Price:—Per cwt., 17/-; per half cwt., 8/10;
per quarter cwt., 4/8.

To get Eggs in abundance throughout
the whole year, use

William Cook and Sons' SPECIAL POULTRY MEAL.

This is a mixture of meals carefully blended after many years' experiments. It is specially prepared for laying hens and young chickens, and contains everything necessary for the production of fine fowls and eggs in abundance. It is not fattening, and should be used by itself. Customers who have used it for years pronounce it to be a perfect mixture, and the finest meal obtainable for the promotion of egg production.

Price:—Per cwt., 15/-; per half cwt., 7/9;
per quarter cwt., 4/-.

William Cook and Sons' GENERAL MEAL.

This Meal is a grand feed for young birds required for the table, as it is flesh forming and fattening, and one of the finest mixtures ever made for Milch Cows, as, when fed on it, they give a larger quantity of milk and more butter than on any other food.

Price:—Per cwt., 12/6; per half cwt., 6/6;
per quarter cwt., 3/6.

William Cook and Sons' CHICKEN MEAL

Is the best meal obtainable for chickens up to the age of four weeks, and is used largely, with excellent results, by many successful exhibitors. It is a special preparation introduced by them, containing, besides fine biscuit meal, 10 per cent. of granulated meat and several other ingredients to promote size, and to keep the birds in good condition. It is of exceptional quality, and it is one of the finest meals of its kind yet offered to the public.

Price:—Per cwt., 17/-; per half cwt., 8/10;
per quarter cwt., 4/8.

William Cook and Sons' SPECIAL FATTENING MEAL.

This Meal has been used with great success by many of the largest fatteners. A perfect mixture is made by using one-third of this meal, one-third ground oats, and one-third barley meal. Ducklings and chickens thus fed are ready for sale and in splendid condition at the earliest possible age.

Price:—Per cwt., 14/-; per half cwt., 7/6;
per quarter cwt., 8/9.

William Cook and Sons' DUCK MEAL.

This is a splendid mixture for feeding stock ducks on, and helps them to produce fertile eggs *in abundance*.

Price:—Per cwt, **14/-**; per half cwt., **7/6**;
per quarter cwt., **4/-**.

SPECIAL DUCK FATTENING MEAL.

This meal has been used with great success by many of the largest duck fatteners. A perfect mixture is made by using one-third of this meal, one-third ground oats, and one-third barley meal. Ducklings thus fed are ready for sale and in splendid condition at nine or ten weeks old.

Price:—Per cwt., **14/-**; per half cwt., **7/6**;
per quarter cwt., **4/-**.

William Cook and Sons' GRANULATED MEAT.

This is invaluable for high-class fowls, and for rearing chickens, and is of the best possible quality.

Price:—Per cwt., **21/-**; per half cwt., **10/6**;
per quarter cwt., **5/6**.

BEST SCOTCH OATMEAL.

This is most useful where size is required in the chickens. We use it largely for rearing our show birds, and the quality quoted for is *reliable*.

Price:—Per cwt., 19/-; per half cwt., 10/-;
per quarter cwt., 5/3.

GROATS.

Best whole groats for feeding young chickens.

Price:—Per cwt., £1; per half cwt., 10/6;
per quarter cwt., 5/3.

SUSSEX GROUND OATS.

This is a very useful food, where size is needed in chickens, and when used with our chicken meal or biscuit meal, makes an excellent preparation. Being so cheap, it is within the reach of all poultry rearers. It is of excellent quality, and our readers would do well to give it a trial.

Price:—Per cwt., 13/6; per half cwt., 7/-;
per quarter cwt., 3/9.

William Cook and Sons' BONE MEAL.

This meal is of excellent quality, and will be found to answer better than any other kind on the market.

Price:—Per cwt., 14/-; per half cwt., 7/6;
per quarter cwt., 3/9.

FLINT GRIT FOR POULTRY.

One of the most essential things in the poultry yard is good sharp flint grit for fowls, turkeys, ducks, and geese, to assist in the assimilation of their food, and for the successful rearing of chickens and young birds of all kinds it is absolutely indispensable, as it keeps the birds in good health as nothing else can.

Grit, to be of service to fowls, must be both hard and sharp, both of which points are possessed by genuine Flint Grit. Much that is sold for grit does more harm than good, as it only blocks up the birds' gizzards, and care should be taken to avoid the use of injurious preparations.

WILLIAM COOK AND SONS have for many years manufactured sharp flint grit for fowls, turkeys, pigeons, and chickens. State which it is required for when ordering. This grit is the hardest and sharpest to be had; and a small quantity lasts a long time. This was the first grit on the market, and maintains its position as *the best*.

Price :—Per cwt. 7/- ; per half cwt., 4/- ;
3 cwt., carriage paid, for £1.

William Cook and Sons' FLINT DUST.

Flint Dust is invaluable to laying hens, turkeys, ducks and geese for providing shell-forming material, and is cheaper than ground oyster shell, and for young chickens surpasses bone meal.

Price :—Per cwt., 5/- ; per half cwt., 3/-.

GROUND OYSTER SHELL.

This is used very largely for laying hens and pullets, as it provides shell-forming material.

Price :—Per cwt., 6/- ; per half cwt., 3/6 ;
per quarter cwt., 2/6.

Carriage is paid on 1 cwt. and half cwt. bags to any Railway Station in England.

ALL MEALS (whether in large or small quantities) are sent **CARRIAGE PAID** in England and Wales, and half Carriage to Scotland and Ireland on small orders. All carriage is paid on orders for 4 cwt and upwards to Scotland and Ireland.

GERMAN MOSS PEAT LITTER.

Moss Peat, instead of dust, ashes or lime in the house, is the greatest boon to poultry-keepers. It saves time, keeps the houses clean, and is in every way a comfort to the fowls themselves. The remarks on this subject in the "Poultry Breeder and Feeder" should be specially noted. When Moss Peat is used, the houses only require to be cleaned out four times a year, as the peat does away with all smells—an occasional stir up being all that is required. Poultry-keepers who have used it would not be without it for anything.

Sold in half cwt. bags, **3/3**; three bags, **9/-**.

Bag and free delivery in Carter Paterson's London District included.

Carriage is not paid on Moss Peat if sent per rail, unless ordered with not less than 2 cwt. of meals and grit.

MOSS PEAT DUST.

For use in chicken coops and foster mothers, this is invaluable.

Price:—Per cwt, **7/-**; per half cwt., **4/6**.

William Cook and Sons' POULTRY POWDER.

This Powder has gained a world-wide reputation for keeping fowls in every climate in condition, and for promoting the production of eggs all through the year. It is, without doubt, the finest preparation of its kind, as it is stimulating, strengthening, and warmth giving. By its regular use, disease is prevented, and the birds are kept in excellent condition—their appearance being much improved by the gloss which it imparts to their plumage; also, it prevents colds, lessening the effects of the constant changes to which they are subject, as a result of the variation in climate. It is especially useful to fowls when they are moulting. When birds mope and are not doing well, they should have a few doses of the Powder, as it will quickly put them right. It is used by poultry breeders and exhibitors in all parts with excellent results.

This Powder helps the birds to produce eggs in abundance, and it is equally good for fowls in close confinement, or with plenty of exercise, and is beneficial to birds in all climates, and is used by poultry-keepers in every part of the world, for the promotion of health, and the production of eggs. It is not injurious in any way, and is successfully used for young stock, including chickens, ducklings, goslings, and turkeys, as it assists them in their growth and in getting their feathers. For the production of fertile eggs throughout the breeding season it is unrivalled.

Sold in 6d., 1/-, 2/- and 5/- Tins. Post free for 8d., 1/3, 2/- and 5/-; 6/- worth Post Free for 5/6. 12/- Tin for 10/-, Carriage paid.

William Cook and Sons' INSECT POWDER.

This is the best Powder for destroying insects on all classes of the feathered tribe, and is used with great success on animals of all kinds. It should also be sprinkled in the nest boxes before hens are set.

Sold in tins, 8d., 1/2 and 2/- post free.

William Cook and Sons'

ROUP POWDER.

This Powder is a certain cure for Roup in fowls. When badly affected they can be cured by its use, and it is also invaluable for those fowls which have the disease partially developed. For preparing birds for the show pen, and for keeping fowls generally in good condition and plumage, there is nothing to equal it. When fowls are suffering from debility, or liver derangement, it soon puts them right, and produces a bright lustre on their plumage, thus improving their health and appearance.

When fowls are out of sorts, more particularly when they cough and sneeze a little, the powder should be used at once, as it has saved the lives of thousands of young stock. It should be mixed in the soft food given in the morning, as this will cure those which are affected, and prevent the disease from spreading.

Sold in 6d., 1/-, 2/- and 5/- tins.

Post free for 8d., 1/3, 2/- and 5/-.

They send 6/- worth for 5/6, and a 12/- tin is sent carriage paid for 10/-, or Customers can have part Roup and Poultry Powder to the value of 12/- sent carriage paid for 10/-.

ROUP AND CONDITION PILLS FOR POULTRY.

There are many who keep poultry who have not the convenience, and some not the time, to mix the Roup Powder into Pills, and we therefore make pills to save them the trouble. The Roup Powder has proved the best remedy ever sold. We have hundreds of testimonials from all parts, stating that it has cured birds where all other remedies have failed. The Pills are of great advantage to some, especially those who do not attend to their own birds themselves, and keep a large number. When a fowl is a little out of sorts, it should be caught and the Pills administered.

Sold in 3/6, 2/-, 1/-, and 6d. boxes; post free, 3/6, 2/-, 1/1½, and 7d.

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For CRAMP, SPRAINS, LEG WEAKNESS, &c
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OINTMENT FOR DESTROYING NITS ON FOWLS.

Prepared especially for destroying nits on poultry, which are usually found round the head and under the throat, and often on the feathers round the abdomen. It is most efficacious, and if used according to the directions, will destroy every nit. It should be rubbed in carefully as far as the nits extend. It does not injure the birds in any way. Every bird should be carefully dusted over with our Insect Powder.

Sold in Bottles, 9d. and 1/3. Post free.

OINTMENT FOR SCALY LEGS.

This Ointment is a perfect cure for the above complaint. It should be well rubbed on daily, and in a few days the legs will be well. This Ointment is excellent for chapped hands, cuts, sore places, etc., as its healing properties are so great.

Sold in 6d. and 1/- Boxes. Post free, 7½d. and 1/2.

RINGS FOR MARKING POULTRY.

WILLIAM COOK AND SONS supply Metal Rings, with Numbers attached (very useful where a large number of birds are kept), 1s. 1d. per dozen, or 70 Rings post free for 5s. Several sizes are kept in stock for marking turkeys, geese, ducks, fowls, and bantams. Also India Rubber Rings in several colours at same prices.

William Cook and Sons' WORM POWDER.

On account of the frequency of cases of worms in fowls and chickens which have recently come under our notice, we are now making a powder specially for the purpose of curing birds affected in this manner. It is effective in all cases, and may be given to all the birds, as it is not harmful to birds which are not suffering from worms, and will greatly improve their condition.

Sold in 1/- tins, by post, 1/3; 2/- tins, post free, 2/-.

William Cook and Sons' FATTENING POWDERS.

These Powders are very useful in assisting poultry to put on fat, and to keep them in health at the same time. They give them a keen appetite and assist digestion.

Sold in tins, 1/-, 5/- and 10/-; by post, 1/3; carriage paid on the 5/- and 10/- tins. Special quotations for larger orders.

To CORN MERCHANTS and other Tradesmen.

WILLIAM COOK AND SONS will be pleased to send to all those who have poultry-keepers among their clients, one of their wholesale price lists of their Roup and Poultry Powders, Meals, etc. They allow a liberal commission to Agents, who will find a ready sale for these specialities, once they have been introduced, as they are the finest in the market.

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Short chapters on Ducks, Turkeys, and Geese, and their management, etc., are published from time to time. Queries are answered free by post by enclosing a stamped and addressed envelope. Specimen copy sent free to all applicants.

The Journal is sent direct from Orpington House, St. Mary Cray, Kent, to England and the Colonies, post free, for a year for 2/6, and for Six months, 1/3, and Abroad for 3/- per annum, payable in advance, and Subscriptions can commence at any time.

... ETC. ...

Many of the houses on the market are built by people who do not understand the requirements of fowls, and are therefore not suited to the purpose for which they are sold. Having made practical poultry-keeping our special study for many years, we are able to supply houses which are in every detail just what fowls require. The first outlay is heavier in purchasing from us, but as they are durable, they are much cheaper in the end.

These are substantially built of $\frac{3}{4}$ -inch match boarding; yellow deal throughout, made in sections which bolt together to facilitate removal. The roofs are covered with roofing felt of the best quality, and the houses are fitted with perches which fit in sockets; nest boxes fitted outside with a flap, to facilitate the collection of eggs; windows with ribbed glass (unbreakable), and properly ventilated. These houses must not be compared with the many cheap and frail structures sold for the accommodation of fowls, as they are thoroughly durable. Houses of exactly the same pattern have been in constant use for over twenty years on our poultry farm, and are still in excellent condition.

£ s. d.

No. I.—Size 4 ft. long by 4 ft. wide, 5 ft. high at front, sloping to 4 ft. 6 in. at back, to accommodate 10 fowls		2	10	0
No. II.—Size 5 ft. long by 4 ft. wide, 5 ft. 6 in. high at front, and 5 ft. at back, for 15 fowls		3	3	0
No. III.—Size 6 ft. long by 5 ft. wide, 5 ft. 9 in. high at front, and 5 ft. 3 in. at back, for 25 fowls		3	10	6
No. IV.—Size 7 ft. long by 6 ft. wide, 6 ft. high at front, and 5 ft. 3 in. at back, for from 35 to 40 fowls		4	4	0

COVERED RUNS.

For stock birds, as well as fowls kept for the production of eggs, these runs are indispensable, as they provide a dry scratching shed all the year round, and a complete shelter from the wind and rain. They are also built of $\frac{3}{4}$ -inch match boarding, and the roofs are covered with roofing felt of the best quality. They are boarded up 2 ft. 6 in. in the front, above which strong wire netting is fitted.

PRICES.

	£	s.	d.
No. I.—Sizes, 8 ft. long by 4 ft. wide	2	7	6
No. II.—Sizes, 9 ft. long by 5 ft. wide	3	0	0
No. III.—Sizes, 12 ft. long by 5 ft. wide	3	8	6
No. IV.—Sizes, 12 ft. long by 6 ft. wide	3	15	0

Each of the above runs corresponds in height with the houses of the same number, and are built to comfortably accommodate the birds specified in each case.

A reduction is made on prices quoted when three or more houses and runs are ordered together.

CHICKEN COOPS AND RUNS.

	s.	d.
Strongly made of $\frac{3}{4}$ -inch match boarding, with felt covered roofs, 2 ft. square, price	8	6
Run, 2 ft. by 3 ft. (as recommended in our writings), and used successfully by us for many years	4	6
The coops can be supplied with movable bottoms for 2s. 6d. extra.		

Special Coop and Run—the finest on the market—
complete, £1 1s. od.

	s.	d.
Patent Nest Boxes for egg-eating birds	8	0 each.
Ordinary Single Nest Boxes	3	0 "
Ordinary Double Nest Boxes	4	6 "
Sitting Boxes, with wire front and patent door (with hinges)	7	6 "
Broody Coops, barred bottoms, for 8 birds, on legs	12	0 "
Feeding Troughs, 3 ft. long, with rail on top	2	6 "
Feeding Troughs, 4 ft. 6 in. long	3	0 "
Galvanised Water Troughs, from	3	0 "

INEXPENSIVE HOUSE and RUN.

For the convenience of those who require houses and runs which are suitable for small pens of stock birds, we make a small house, with nest boxes outside, with an open wire run, to accommodate a cock and seven hens.

Complete for £ 2 2 0.

These can be moved about on the grass with ease, or are just as suitable as a fixture.

MOVABLE CHICKEN HOUSES.

These houses are built in the same substantial style as those for fowls, and are designed with the object of providing strong houses, which can be easily moved from place to place. They are substantially made of $\frac{3}{4}$ -inch match boarding, and have a sound floor, and are fitted on wheels. The roof is covered with best quality roofing felt; and a perch is supplied which can be used when the chickens have grown. These houses are particularly useful for keeping young birds out in the fields until they are ready for sale, either for table or for stock.

					£	s.	d.
For 20 chickens, or young fowls	...	...	...	...	2	10	0
For 40 chickens, or young fowls	...	...	...	...	3	0	0

EGGS FOR SITTING.

WILLIAM COOK & SONS

have, from November to July, many thousands of birds mated for breeding purposes, all of which are on large grass runs, and those requiring reliable eggs from well-bred birds and excellent layers can ensure having them by placing their orders with them. Their stock includes numbers of prize winners, and not only are their Orpingtons the best obtainable, but in their Prize pens of other breeds they mate only first-class birds, fit for keen competition, although unable to exhibit many of these on account of want of time. An inspection of the breeding stock mated at Orpington House will more than verify this statement. *Inspection of breeding stock cordially invited.*

As the prices vary according to the months, a postcard should be sent for current prices of eggs. This method of obtaining good stock for a moderate outlay is one of the most satisfactory to the purchaser, and W. COOK & SONS make a special study of supplying only those eggs which will give satisfaction.

EGGS FOR ABROAD.

Eggs for Sitting are sent to all parts of France, Germany, Switzerland, Italy, Norway, Sweden, Denmark, Holland, and the United States, carefully packed. As eggs cannot be returned from this distance to be replaced—one extra sitting will be sent with each three sittings purchased to cover the risk of fertility—the greatest care being taken in their selection. All eggs are guaranteed to be collected from the nests on the day the orders are despatched.

The following Books are by the late W. Cook,

And are the most practical works written on the subjects with which they deal. They are 2/6 each; 2/9 post free.

“Fowls for the Times.”

Being the History and Development of the Orpington Fowl.

This book surveys the whole poultry-keeping position up to date; contains many scientific facts in connection with poultry keeping that have never come before the public hitherto, tracing many of the details of the new poultry management back to their origin in the laws of Nature, and giving many interesting particulars concerning the development of the industry.

“Pheasants, Turkeys and Geese.”

This is a most useful book, treating on the subjects fully, and should be read by all lovers of these birds, and by those who have a little ground at their disposal.—Illustrated.

“The Horse: Its Keep and Management.”

Contains Chapters on Feeding—Watering—Tying up and Bedding down in the Stable—Cleaning—Clipping and Singeing—Horses' Feet—Bandaging and Managing Horses in the Stable—Colds—Diseases—Shoeing—Breeding—Rearing Colts—Breaking in—Driving—The Stable Floor—Fever in the Feet—Weak Joints, &c.—Illustrated.

“The Poultry Keepers’ Account Book.”

Arranged by WILLIAM COOK. Price 1/1½, Post Free.

This is the simplest Account Book published, and provides for every detail in the poultry yard. Thousands have been sold, and every poultry-keeper, breeder, and exhibitor should possess one.

***The following book will be ready shortly. Orders
are being booked ahead for it now:—***

“Ducks and How to Make them Pay.”

SIXTH EDITION.

The pages of this book are full of useful hints, and plain and practical information, and has been entirely re-written and is up-to-date in every respect. No duck rearer should be without one. The useful varieties are fully dealt with, and illustrated, and everything connected with ducks fully explained.

THE FIVE BOOKS POST FREE FOR 12/-

WILLIAM COOK & SONS'

Price List of Poultry.



They have always between six and eight thousand birds, and can satisfactorily supply the requirements of all. The late William Cook was the first in England to make the laying qualities of fowls a study, and his laying strains of every useful breed are well known throughout England as the finest obtainable, and these can only be obtained from William Cook and Sons. Every bird which is bred from, being a test layer, purchasers can be sure of having good laying strains, combined with purity of type, by placing their orders with them. In all the popular breeds they have also birds fit for the keenest competition at very reasonable prices.

Black Orpingtons.—Pure-bred pullets which have been specially bred for laying, 8s 6d, 9s 6d and 10s 6d each. Unrelated pure-bred cockerels at 10s 6d, 12s 6d and 15s 6d each. Well-bred pullets, combining the best blood obtainable and good laying qualities, 12s 6d and 15s 6d each; and fine cockerels, suitable for mating with these, at £1 1s and 30s each. Prize-bred and very typical pullets from £1 1s each upwards, and cockerels from their best strains at £2 2s, £3 3s, £4 4s and £5 5s each. These are suitable for exhibition in moderate competition, and are thoroughly reliable stock birds. Cockerels and cocks fit for keenest exhibition from £7 7s each upwards. Hens and pullets from £5 5s each upwards.

Buff Orpingtons.—Well-bred pullets, combining excellent laying qualities, 8s 6d, 9s 6d and 10s 6d each. Unrelated well-bred cockerels, 10s 6d, 12s 6d and 15s 6d each. These birds are most satisfactory for stock purposes for those who require to breed Buff Orpingtons for utility purposes. Pullets of thoroughly good type and colour and of equal laying qualities, 12s 6d, 15s 6d and 21s each; and prize-bred cockerels at £1 1s and 30s each. Cockerels and pullets from prize strains for small shows from £2 2s each upwards, and fit for keenest competition from £7 7s each upwards. Mismatched hens and pullets for breeding table birds at 6s 6d, 7s and 7s 6d each, and large strapping cockerels at 8s 6d and 9s 6d each for crossing purposes.

WILLIAM COOK AND SONS'

PRICE LIST OF POULTRY.

White Orpingtons.—This is one of the finest breeds of fowls for the production of brown-shelled eggs in abundance, and table birds of best quality obtainable, combined with a very handsome appearance.

Fine pullets for breeding purposes at 10s 6d, 12s 6d, 15s 6d, 21s, 25s and 30s each, and good cockerels at 15s 6d, 21s, 25s, 30s and 35s. Show birds from £2 2s each and upwards. Large cockerels for crossing purposes, to produce good table fowls and layers combined, 7s 6d, 8s 6d and 9s 6d each.

Jubilee Orpingtons.—Hens and pullets at 9s 6d, 10s 6d, 12s 6d, 15s 6d and 21s each, and choice birds at 30s, 42s, 50s and 63s each. Unrelated cocks and cockerels at 10s 6d, 12s 6d, 15s 6d, 21s, 25s, 30s, 35s and 42s each upwards. A few cockerels at 7s 6d and 8s 6d each for crossing.

Black Minorcas.—Of this breed they have some very fine birds, and can offer good pens of stock birds at special prices, as well as a few choice birds for exhibition. They have established strains which can successfully compete with all others, for laying qualities as well as for purity of breed. Hens and pullets at 8s 6d, 9s 6d, 10s 6d, 12s 6d, 15s 6d and 21s each; and unrelated cocks and cockerels at 10s 6d, 12s 6d, 15s 6d and 21s and 30s each upwards. Birds for exhibition purposes at £3 3s each, upwards. Pens of six good pullets and unrelated cockerel, £2 18s 6d and £3 10s, and mated for breeding show birds at £5 5s per pen.

White Leghorns.—A number of very good birds always for sale—pullets 8s 6d, 9s 6d and 10s 6d each; larger birds, with good laying qualities combined, 12s 6d and 15s 6d each; grand prize-bred hens from 21s to £5 5s each; unrelated early-hatched cockerels for utility purposes, 8s 6d, 9s 6d, 10s 6d, 12s 6d each; fine upstanding birds, 15s 6d and 21s each; and prize-bred birds, 30s upwards; many being fit for the keenest competition. Pens of six good pullets and unrelated cockerel, £2 18s 6d and £3 10s, and mated for breeding show birds, £5 5s per pen.

WILLIAM COOK AND SONS' PRICE LIST OF POULTRY.

Black Leghorns.—William Cook and Sons are making a speciality of this breed, which has become the most popular of the non-sitting varieties of fowls. The laying qualities of the Leghorns are well known, and the Blacks bid fair to outrival all the others.

Cockerels can now be supplied for breeding utility birds for crossing with mixed breeds of hens at 8s 6d and 9s 6d each; very good cockerels for pure breeding at 10s 6d, 12s 6d, 15s 6d and 21s each; and good unrelated pullets at 8s 6d, 9s 6d and 10s 6d each upwards. Cockerels and pullets from their prize strains at from 30s, 35s, 42s, 50s and 63s each. Pens of six good pullets and unrelated cockerel, £2 18s 6d and £3 10s; and mated for breeding show birds at £5 5s. per pen.

Brown Leghorns.—Well-bred pullets, from excellent laying strains, 9s 6d and 10s 6d each; and prize-bred pullets, 12s 6d, 15s 6d and 21s each upwards. Unrelated cocks and cockerels, 10s 6d, 12s 6d, 15s 6d, 21s, 25s and 30s each upwards.

Houdans.—Useful pullets, at 8s 6d and 9s 6d each, and prize-bred pullets, 10s 6d, 12s 6d, 15s 6d and 21s each; unrelated very fine cockerels, 12s 6d, 15s 6d, 21s, 25s and 30s each. Pens of six good pullets and unrelated cockerel, £2 18s 6d and £3 18s 6d, and mated for breeding show birds at £5 5s per pen.

Dark Dorkings.—Fine cockerels, 12s 6d, 15s 6d, 21s 25s and 30s each; and unrelated pullets, 10s 6d, 12s 6d and 15s 6d each upwards.

Silver Grey Dorkings.—Good early-hatched well-bred pullets, from excellent laying strains, at 10s 6d and 12s 6d each, and well-developed unrelated cockerels at 12s 6d, 15s 6d and 21s each upwards.

Indian Game.—Large well-marked early-hatched pullets, 9s 6d, 10s 6d and 12s 6d each, and unrelated very good cockerels, 12s 6d, 15s 6d and 21s each. All these Indian Game are particularly good.

Partridge Wyandottes.—Pullets, 8s 6d, 9s 6d, 10s 6d, 12s 6d and 15s 6d each upwards; and cockerels, 12s 6d, 15s 6d, 21s, 25s and 30s each. Pens of six good pullets and unrelated cockerel, £2 18s 6d and £3 10s, and mated for breeding show birds at £5 5s per pen.

WILLIAM COOK AND SONS'

PRICE LIST OF POULTRY.

Silver Wyandottes—Very good pullets at 8s 6d, 9s 6d and 10s 6d each, and prize-bred ditto at 12s 6d, 15s 6d and 21s each upwards. Unrelated cockerels, 10s 6d, 12s 6d, 15s 6d, 21s, 25s and 30s each. A few choice birds for exhibition, £2 2s to £5 5s each. Pens of six good pullets and unrelated cockerel, £2 18s 6d and £3 10s, and mated for breeding show birds at £5 5s per pen.

Golden Wyandottes.—At same prices as Silvers.

White Wyandottes.—A number of good cockerels for sale at 10s 6d, 12s 6d, 15s 6d and 21s each; and unrelated hens and pullets at 9s 6d, 10s 6d, 12s 6d and 15s 6d each upwards.

Langshans—Typical hens and pullets, 10s 6d, 12s 6d and 15s 6d each, and good cocks and cockerels, 15s 6d, 21s, 25s, 30s, 35s and 42s each.

Plymouth Rocks.—Useful pure-bred pullets, 8s 6d, 9s 6d and 10s 6d each, and prize-bred birds, 12s 6d, 15s 6d, 21s and 30s each. Unrelated well-bred cockerels, 10s 6d, 12s 6d, 15s 6d, 21s, 25s, 30s, 35s and 42s each.

Cockerels for Crossing.—These can be supplied of nearly all the useful breeds, at 7s 6d and 8s 6d each, and of some breeds at 6s 6d each. Particulars of these will be sent on application.

First-cross Pullets.—Specially bred from the finest layers obtainable and of the most profitable crosses:—Houdan-Legh. rns, Houdan-Minorcas, Houdan-Buff Orpingtons, Minorca-Orpingtons, Minorca-Plymouth Rocks, etc., etc., at 5s 6d, 6s and 6s 6d each.

Aylesbury Ducks.—Good pure-bred ducks at 9s 6d and 10s 6d each, and prize-bred ditto, at 12s 6d, 15s 6d and 21s each; and massive unrelated drakes, at 15s 6d, 21s, 25s and 30s each. Useful drakes also at 10s 6d and 12s 6d each.

Indian Runner Ducks.—Pure ducks at 8s 6d, 9s 6d and 10s 6d each, and prize-bred ditto at 12s 6d, 15s 6d and 21s each; and good unrelated drakes at 8s 6d, 9s 6d, 10s 6d and 12s 6d each, and prize-bred ditto, at 15s 6d, 21s, 25s and 30s each.

WILLIAM COOK AND SONS' PRICE LIST OF POULTRY.

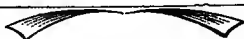
Buff Orpington Ducks—These ducks are William Cook and Sons' own production, and are extremely pretty—being of good buff colour—and excellent layers, as well as very plump on the table. Ducks, 21s, 25s, 30s, 35s each, and drakes, 30s, 35s, 42s, 50s and 63s each.

Geese—Very fine unrelated Toulouse ganders and unrelated geese, 25s, 30s and 35s each. Embden ganders and geese at same prices. Chinese geese and ganders from 21s each upwards.

American Mammoth Bronze Turkeys.—William Cook and Sons have several of the finest flocks of turkeys in this country, and breed an increasing number of stock birds each year. Unrelated cocks are imported by them from the United States every season. They have now for sale very choice hens at 30s, 35s, 42s and 50s each—these are massive birds bred from stock imported direct from America, and are some of the finest obtainable—and pullets at 25s, 30s, 35s and 42s each; good cockerels, 42s, 50s and 63s each.

Cambridge Bronze Turkeys.—Fine cockerels at 42s and 50s each, and pullets at 25s, 30s and 35s each.

TERMS.—*All birds sent on approval. Cash to accompany order, this being returned if birds are not satisfactory.*



NOTICE TO PURCHASERS OF BIRDS.

William Cook and Sons will esteem it a favour if Clients who, for any reason, wish to return birds, would kindly keep them at least 24 hours before placing them on rail, so that the birds are not travelling on two consecutive days.

An advice of despatch should be posted at the same time, stating the reason for which the birds are returned, and others will be sent if the purchaser desires it, or the money returned at once.

All returned birds must be sent Carriage Paid. Empty baskets to be returned at once if birds are approved.

INSPECTION OF ORPINGTON HOUSE FARM CORDIALLY INVITED, where many thousands of birds are on view, all on long grass runs. This farm is considered by all to be the largest, best arranged, and contains more valuable specimens than any other Poultry Farm in the world.

**STATIONS :—ST. MARY CRAY, S. E. & C. R., 1½ miles ;
ORPINGTON, 3 miles.**

ALL VISITORS MET AT THE STATION BY APPOINTMENT.

They would draw attention to the importance of enquiring carefully for the ORPINGTON HOUSE POULTRY FARM, when visiting from St. Mary Cray Station. In cases where Cabs are taken, care should be taken to specify Orpington House as the destination desired.

Practical advice will be sent post free to all enquirers on receipt of a stamped directed envelope. Consultations at Orpington House, for advice, and a personally conducted inspection of the farm will be arranged for those who would like to see the stock, which is more numerous, and of better quality, than ever before.

When it is not convenient to purchasers to receive their birds at time of order, they are always pleased to keep them on for a time, then purchasers will know that the best will not all be sold off by the time they are ready to receive their new stock.

Foreign and Export Orders.

William Cook and Sons' connection with European and Colonial countries is of long standing, and during the last ten years they have exported a very large number of birds of most varieties to various parts. Special attention and care is given to this branch of their business.

They are in a much better position than other poultry-keepers for shipping birds—being only 14 miles from the Docks—as they deliver by their own vans, and personally see every consignment on board, and arrange with the captain to give the birds sheltered positions and every attention during voyage. The excellent condition their birds arrive in proves that the Export Department is conducted in a most satisfactory manner, and customers can with confidence entrust their orders with them.

Specially made coops, food troughs, expenses to Docks, B/L Dock dues, and freight arranged at lowest possible rates, according to country exported to. All letters and cables promptly responded to. They guarantee full value, safe delivery, and quick transit, and have arranged special rates with the largest shipping firms. Special quotations given, including delivery, to any part of the world.

AUSTRALIA AND NEW ZEALAND.

They are constantly shipping stock of all classes to poultry-keepers in Australia and New Zealand.

For pure breeding they recommend pullets at 21s, 25s and 30s each; with unrelated cockerels at 21s, 25s, 30s and 42s each; and for breeding prize birds—pullets at 42s, 50s and 63s each; unrelated cockerels at 50s, 63s, 70s and 84s each.

A few genuine winners in all breeds always for sale. Full pedigree and the winning show cards sent with each specimen.

The shipping expenses, which include coop, food for voyage, carriage to Docks, Dock dues, B/L and freight are 17s 6d per bird, if not less than six are ordered together; and for three birds, 18s 6d each. These expenses are in addition to the cost of the birds.

If intending purchasers will send their remittances direct to them, stating fully their requirements, they will receive the birds by next boat, and can rely on a careful selection being made on their behalf, and good value for money, no matter how small the order.

FOREIGN AND EXPORT ORDERS.

SOUTH AFRICA.

They are always prepared to ship birds to all parts of South Africa for utility purposes, and for breeding show or high-class birds; also birds fit for the keenest competition. For utility purposes only, they recommend pullets at 12s 6d, 15s 6d and 21s each; and unrelated cockerels at 15s 6d, 21s, 25s and 30s each. These are pure bred and from reliable strains, and will breed good stock. Then for breeding for exhibition birds: the pullets at 25s, 30s, 35s, 42s and 50s each; and unrelated cockerels at 42s, 50s, 63s, 70s, and 84s each, are recommended. Exhibition birds at from £5 5s to £15 each.

They have spared no expense in securing stock birds of the highest quality in every one of their breeds, giving frequently £20 to £50 each to secure really good birds for their breeding pens, and customers may rely on having birds of the best blood obtainable at the lowest prices charged in England. They supply the same customers year after year, and it has always been their aim, and will continue to be, to give satisfaction to every one. Unrelated stock can always be had to those previously supplied.

The shipping expenses, which include export coop, food for voyage, carriage to Docks, Dock dues, B/L and freight, are 10s 6d per bird, if not less than six are ordered together; and for three birds, 12s 6d each. These expenses are in addition to the cost of the birds.

All birds ordered for Cape Colony will be sent by the Mail boats, and for Natal and the Transvaal by Rennie direct boats.

U.S.A. AND CANADA.

They have always good trios of birds for sale of all their breeds particularly in all their varieties of Orpingtons, for which there is now such a large demand in America and Canada. They can send them off immediately on receipt of order to cover cost of birds, food, and export coop; freight forward through the cheapest Forwarding Agents in London. They have *very good* trios at £12 and £15; and trios of reliable quality at £7, £8, and £9, including coop and food for voyage.

CHARGES FOR EXPORT TO OTHER COUNTRIES.

These will be quoted per return mail to all enquirers.

Personal and prompt attention, with safe delivery, guaranteed to all export orders.

Awarded Bronze Medal, Dairy Show, 1905.

WILLIAM COOK & SONS' Combined Coop and Run.

This Coop is specially designed for rearing chickens and turkeys successfully early in the season; as by closing the door in run on wet days the young birds have all the advantages of out-door rearing, but are kept perfectly dry. It is the best Coop on the market, and possesses many points in its favour over any yet made, and is so fitted that after the hen leaves the young birds, it is converted into a cold brooder, and they can thus be kept in it until three months old. This Coop is very substantially made, and is covered with specially tarred roofing felt, and will last many years.

PRICE - - - 21s.

TWO UNSOLICITED TESTIMONIALS RECEIVED:—

The Cottage, Tilston, Malpas,
20th March, 1906.

MRS. WILLIS TAYLOR would be obliged if Messrs. Wm. Cook and Sons would send her another of their combined Chicken Coops at £1 1s., as she finds the other so satisfactory. It is wanted without delay.

Ballymena, St. Mary Cray..

MESSRS. W. COOK & SONS.

Dear Sirs,

It may interest you to know that the coop I had from you last year has more than fulfilled my anticipations of it. It has the name here of "The Winter Coop"—its design, no less than its careful workmanship, combined with stout materials, admirably adapted for early broods.

Its usefulness, however, is not confined to early chickens, as the detachable hoover makes it easily convertible into a cold brooder, and I have many times employed it as such—finding this contrivance most handy when the hen has left her chicks too soon.

I was very pleased to see that you had the Bronze Medal for it at the recent Dairy Show, and I am sure it was well deserved. You will be interested to know that I have raised many winners in your coop, including my challenge cup Blue Langshan cockerel.

Yours faithfully,
W. A. JUKES.

TO BE OBTAINED ONLY FROM THE MAKERS:—

**WILLIAM COOK & SONS,
ORPINGTON HOUSE, ST. MARY CRAY, KENT.**

RATS AND MICE

effectually destroyed by the

"LIVERPOOL" VIRUS

WITHOUT DANGER to human beings, domestic animals,
game or poultry, and

WITHOUT SMELL from the dead bodies. Absolutely harm-
less to every living thing except Rats
and Mice

HOGSTHORPE, ALFORD, June 29th, 1906.

Dear Sir,—“LIVERPOOL RAT VIRUS.”— I have used the above with great success, having dressed two yards last October where previously I had lost a great quantity of chickens with rats, and I have not seen a rat since. I also gave it to some poultry to test its liability to poison any stock animals, etc., but could see no ill-effects, and should I at any time be troubled with these pests I should at once lay it down. When I say I did not see any rats after use I mean alive, as we found several remains which were only skins with what was left of bones inside.

Yours truly, J. W. WILSON.

The Director of Agriculture of one of our most important Colonies, in the course of a lengthy Report on experiments with the "Liverpool" Virus, writes:—

“In order to ascertain if any other animals were affected (by the Virus) a mongoose was fed with the flesh of the dead rats without effect. Chickens were also fed with the remains of the infected bread and corn and with the flesh and entrails of the dead rats; they also showed no signs of being affected.”

PRICES:—For Rats, 2/6 per tube; large size, 8/- per tube. For Mice, 1/6 per tube.

May be obtained from all Chemists.

EVANS SONS LESCHER & WEBB Ld.
LIVERPOOL and LONDON.

IF YOU ARE INTERESTED IN RURAL PURSUITS

. . YOU SHOULD READ . .

FARM LIFE

*The best Illustrated Weekly Newspaper dealing with
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Price 1d. Every Friday.

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*Its Information on Goat and Rabbit Breeding is from the
pens of prominent Breeders and Rearers.*

Its Dairy Article is the work of an expert in Dairying.

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by Mr. Primrose McConnell, the well-known agriculturist
and scientist, who says he "has never been more than half
a mile from a cow's tail" in his life.*

FARM LIFE contains plenty of information and
plenty of illustrations—all first-class.

Read the following extracts from two letters received by the Editor,

From a LAND AGENT.

"I must say that FARM LIFE is an ideal paper for anyone taking an interest in agriculture. I am farm manager to the Right Hon. the Earl of _____, and his lordship takes a great interest in the paper, as it was he who first advised me to take it."

From a DAIRY FARMER.

"I cannot help expressing my admiration for your paper. As a farm paper it is invaluable, touching upon so many subjects as it does, and the illustrations are superb."

**YOU will agree with these sentiments yourself after you have
seen a copy. Get one TO-DAY.**

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